



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

JOINT APPLIED PROJECT

ANALYSIS OF FOREIGN MILITARY SALES (FMS) IN U.S. ARMY ACQUISITION PROGRAMS

March 2016

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REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 2016	3. REPORT TYPE AND DATES COVERED Joint Applied Project	
4. TITLE AND SUBTITLE ANALYSIS OF FOREIGN MILITARY SALES (FMS) IN U.S. ARMY ACQUISITION PROGRAMS			5. FUNDING NUMBERS	
6. AUTHOR(S) Martina Cote, Thomas LaFontaine, Michael McGarvey				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number ____ N/A ____.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) <p>This project is a review of historical foreign military sales (FMS) within U.S. Army acquisition programs. The data analysis is used to produce background data, which is then compared to active acquisition programs, acquisition statutes, processes and pressures placed upon the acquisition community to bring in a program under budget and ahead of schedule.</p> <p>A comparative analysis of the two Army acquisition programs is conducted in an effort to verify if statutes, processes or personalities are involved in the lower numbers of FMS in wartime and more robust FMS sales after the war. The analysis removes the higher wartime U.S. Army acquisition budgets as a comparative factor using the program's Program Objective Memorandum projected totals before war.</p>				
14. SUBJECT TERMS foreign military sales, Army acquisition programs			15. NUMBER OF PAGES 61	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

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ACQUISITION PROGRAMS**

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Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN PROGRAM MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
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LIST OF ACRONYMS AND ABBREVIATIONS

AECA	Arms Export Control Act
AOR	Area of Responsibility
CLU	Command Launch Unit (JAVELIN)
COTS	Commercial off the Shelf
CPI	Critical Program Information
CSCI	Center for Strategic & International Studies
CUI	Controlled Unclassified Information
DCS	Direct Commercial Sales
DISAM	Defense Institute of Security Assistance Management
DOD	Department of Defense
DSCA	Defense Security Cooperation Agency
FAA	Foreign Assistance Act of 1961
FM	Field Manual
FMF	Foreign Military Financing
FMFP	Foreign Military Financing Program
FMS	Foreign Military Sales
FMSA	Foreign Military Sales Act of 1968 (now AECA)
FMSCR	Foreign Military Sales Credit (also FMFP)
GAO	Government Accountability Office
IB	Industrial Base
LOA	Letter of Offer and Acceptance (DOD)
NATO	North Atlantic Treaty Organization
ODC	Offices of Defense Cooperation
OMC	Office of Military Cooperation
PM	Project Manager
RDA	Research Development and Acquisition
SA	Security Assistance
SCO	Security Cooperation Organization
TOA	Total Obligation Authority

TOW	Tube-launched, Optically-tracked Wire-guided
TWV	Tactical Wheeled Vehicle
USASAC	U.S. Army Security Assistance Command
WWI	World War I
WWII	World War II

ACKNOWLEDGMENTS

We want to express our sincere appreciation to those who supported us during our time at the Naval Postgraduate School, particularly during the time it took to complete this thesis. Special thanks to our advisors, Robert Eger and Brad Naegle, for their guidance, encouragement and patience. We are grateful for the support our families have provided, their sacrifices and their patience while we worked on this project. Finally, thank you to the organizations that have supported us while attending the Naval Postgraduate School.

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I. INTRODUCTION

Arms sales are extremely vital to the United States both in military support of its allies and in the defense industry. Arms sales have allowed our allies to attain relevant and current military equipment in support of their defense and coalition wars. This paper examines how arms sales, or, more concisely, Army foreign military sales (FMS), integrate within the Army's domestic acquisition programs. Research explores what effect FMS has on the Army's acquisition programs and on the U.S. defense industry. The findings in the research can be used to determine how the Army's acquisition programs may utilize FMS programs more effectively, providing the most benefit to their acquisition program baseline.

A. PROBLEM STATEMENT AND PURPOSE OF STUDY

While all U.S. Army acquisition program managers cite the importance of FMS in their program baselines, there is limited research available that focuses on the analysis of FMS in times of strong defense budgets, such as times of war versus budget-constrained times. The purpose of this study is to demonstrate the need for acquisition programs to aggressively include FMS in their programs during wartime funding increases and peacetime decreases. Program managers (PMs) will benefit from knowing how their particular programs can be stronger and less susceptible to funding peaks and valleys. The research within demonstrates the benefits of an aggressive FMS activity during all acquisition program funding cycles.

B. RESEARCH QUESTIONS, METHODOLOGY, AND THESIS STATEMENT

This project addresses several primary and secondary research questions. The research questions are:

- What are the totals of FMS expenditures in peacetime and wartime?
- What is the amount of funding in relationship to the U.S. Army acquisition programs in both peacetime and wartime?

- What is the overall benefit to the U.S. defense industry when factoring in FMS?
- Where is the PM focus during times of war and during times of peace or lower budgets?
- What is the value to the PM when including FMS within his program during all stages of funding?

To answer the research questions, this project uses both statistical analysis and case-study methodology. This approach provides an in-depth review of FMS programs and their relationship to U.S. Army acquisition programs. We utilized the case-study method as the most appropriate research strategy because it allows for analysis of multiple acquisition programs and adds real-life execution examples. Several data collection methods, such as program reviews, government and commercial reports, plus newspaper and periodical articles, were used to ensure a comprehensive analysis.

Ultimately, this project suggests that program managers should aggressively seek FMS sales, regardless of whether the budget is enhanced or reduced. Managers should devote an international team to insure all is done to verify coalition partners' requirements are filled as needed. Delivering the best capability to the warfighter on time and within budget will always be the number one priority for a PM, but incorporating FMS into the PM's business model yields additional benefits to the American industrial base and the warfighter.

C. LIMITATIONS

The sensitivity of U.S. Army acquisition programs and their program managers created political issues; as such, the decision was made not to use personal interviews for this research. Data was gathered using only reliable and credible program sources. The reference materials from the programs identified in this report are from unclassified sources only. The classified data is insubstantial, and thus does not skew the overall data in this report. Although FMS has a long history of execution, this report covers a ten-year span, from 2004 to 2014.

D. CHAPTER OVERVIEW

Following this introduction, Chapter II defines FMS through its program beginnings, program mission, and organizational structure within the United States government and how it is executed. Additionally, Chapter II illustrates the importance of FMS within the U.S. Army acquisition programs. Chapter III reviews the value of FMS in acquisition programs as they relate to the U.S. Army and to the United States industrial base. Chapter III statistically examines the value added, if any, of FMS and its statistical effect on the U.S. industrial base. Chapter IV evaluates the data in Chapter III, showing trends of the addition of FMS. Chapter IV provides a discussion of the data analysis. Chapter V concludes with report with overall conclusions, recommendations and areas for future research.

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II. DESCRIPTION OF FMS AND ITS HISTORY

A. FMS HISTORY

The loosely defined beginnings of FMS can be traced back thousands of years. Over 2,500 years ago, in Thucydides' "History of Peloponnesian War" (Defense Institute of Security Assistance Management [DISAM], 2015, pp. A2-1). We have proof of military equipment transfers from the time of Thucydides; almost all wars show evidence of military equipment or intelligence transfers from one country or clan to another. The transfer of equipment, training and intelligence to our allies has been a key part of our security strategy. We have transferred material to our allies or received from our allies in every war fought by the United States using various forms of transfer. As the United States began its effort for independence, we were on the receiving end of arms and advisors from France. Arms tactics and other support helped the United States become a nation (DISAM, 2015, pp. A2–1).

1. World Wars I and II

The United States shipped arms and equipment to the United Kingdom during World War I (WWI). Our ability to produce arms and equipment naturally found profit in becoming a major supplier of military material during this time while claiming to be a neutral country. "The United States exported \$2.2 billion in war supplies to Europe. In 1916, the U.S. shipped more than \$1 billion of arms in a single year. By 1920, the U.S. accounted for more than 52 percent of global arms exports" (DISAM, 2015, pp. A2–3).

The ability of the United States to produce military material with its industrial might was clearly something we leveraged to support our own political objectives and national security interest. Foreign military sales enabled the United States to help define the outcome of WWI in Europe. "President Wilson saw this American output of munitions as 'an arsenal of freedom.' Nevertheless, despite that sentiment, the fact that the U.S. ranked high among the world's leading arms exporters caused a great controversy that was reflected in much public debate and discussion throughout the 1920s

and 1930s” (Defense Institute of Security Assistance Management (DISAM, 2015, pp. A2–3).

Our leadership in Foreign Military Sales industry was not without its challenges. The debate would occur in Congress when Senator Gerald P. Nye (R-ND) established a committee specifically to evaluate the motive for the United States Industry to continue exporting arms. “Greater government control and oversight over the U.S. arms industry was an outcome of the Nye Committee’s efforts. This included the establishment of a munitions control board” (DISAM, 2015, pp. A2–3). One might say this was the beginning of Congress regulating military and technology exports and the creation of export control laws began here (DISAM, 2015).

Foreign military sales would again take the front line during World War II (WWII). The United States wanting to be neutral but understood the threat to national security as the Nationalsozialist (Nazi) party expanded Germany’s invasions of surrounding countries. Our commercial industry increased its arms production to support Britain and other Allies.

The Lend-Lease Act of March 11, 1941, was the principal means for providing U.S. military aid to foreign nations during World War II. The act authorized the president to transfer arms or any other defense materials for which Congress appropriated money to ‘the government of any country whose defense the president deems vital to the defense of the United States.’ Britain, the Soviet Union, China, Brazil, and many other countries received weapons under this law. (Foner & Garraty, 1991)

This allowed for the lease and delivery of arms and supplies to U.S. Allies during the beginning of WWII. While the title states “Lend Lease,” most of the funds were not repaid.

2. Truman Doctrine

WWII ended with the United States policy in sharp contrast with the aggressive post war land holding policy exhibited by the Soviet Union. Many politicians felt time would cause the Soviet Union to relax their policy but international relationships took a turn for the worse just short of a decade after WWII.

In light of the deteriorating relationship with the Soviet Union and the appearance of Soviet meddling in Greek and Turkish affairs, the withdrawal of British assistance to Greece provided the necessary catalyst for the Truman Administration to reorient American foreign policy. Accordingly, in his speech, President Truman requested that Congress provide \$400,000,000 worth of aid to both the Greek and Turkish Governments and support the dispatch of American civilian and military personnel and equipment to the region. (U.S. State Department Archive, 2009)

This also began the era for Military Assistance Organizations who would provide material and military advisors to manage these programs with nations receiving support assistance. This implementation of military advisors continues to be a tool to support our foreign policy and national security interests.

Truman requested and received a request for \$400 million to aid Greece and Turkey. This was the beginning for the United States Foreign Military Assistance as we would from this point forward work to influence the outcome of Soviet aggression by equipping and training allied or friendly nations to prevent the spread of communism. This request became known as the Truman doctrine, Truman declared:

I believe that it must be the policy of the United States to support free peoples who are resisting attempted subjugation by armed minorities or by outside pressure.

I believe that we must assist free peoples to work out their own destinies in their own way.

I believe that our help should be primarily through economic and financial aid which is essential to economic stability and orderly political processes.

In addition to funds, I ask the Congress to authorize the detail of American civilian and military personnel to Greece and Turkey, at the request of those countries, to assist in the tasks of reconstruction and for the purpose of supervising the use of such financial and material assistance as may be furnished, I recommend that authority also be provided for the instruction and training of selected Greek and Turkish personnel. (DISAM, 2015, pp. A2-5)

Until this event, the U.S. had never engaged in formal military assistance during times other than war. Slow economic recovery in Europe brought needed United States financial assistance to those countries trying to rebuild. Ultimately this climate led to the

creation of the North Atlantic Treaty Organization (NATO). It provides a Military Alliance among its member countries.

Article 5 The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.

Any such armed attack and all measures taken as a result thereof shall immediately be reported to the Security Council. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security. (The North Atlantic Treaty, Washington DC, 4 Apr 1949, 2015)

The importance of setting up the United States as a member of NATO reserved the right to help member nations defend themselves from threats should not be overlooked. Our historical actions related to military assistance from WWI, WWII, and the Cold War helped establish our nation a global super power.

At the height of the Cold War, during the Truman Doctrine era, the Army worked with its allied nations and closest allies to protect themselves against current and future threats to their territory and internal security, working to strengthen regional and international security in a plan to contain the spread of communism. Army advisors worked around the world in China, Greece, Turkey, Korea, and South Vietnam in advisory groups or military groups. With the fall of the Soviet Union and the end of containment, the U.S. National Security Strategy reoriented to confront a wide range of more ambiguous threats. Consequently, the Army developed deeper relationships with partner security forces, such as those of Colombia, to help curtail drug production and buttress the friendly government's campaign to defeat a violent insurgency. (United States Army, 2013, p. V)

Mr. Michael McGarvey (a coauthor of this project) participated as a one of the 55 military advisors working in the country of El Salvador beginning in 1983 through 1987. This military assistance program initiated to curtail the insurgency by guerrilla forces attempting to overthrow the government of El Salvador would have succeeded if not for

the intervention of the United States. Additionally, the advisory method allowed for minimal force exposure resulting in just a few casualties during the war from 1980 thru 1992 and ultimately helped provide stability in the region. This effort was a good example of addressing national security concerns through Military Aid without engaging the full military force of the United States.

B. CONTROL DOCUMENTS

Presidents Eisenhower, Kennedy, Johnson and Nixon all followed Truman's lead in supporting a containment policy against the Soviet Union through the Korean and Vietnam Wars with ever-increasing arms trade agreements. Aid included putting troops on the ground. Military Assistance or Army Trade became more formalized with the passing of the Foreign Assistance Act (FAA) of 1961 and the Arms Export Control Act (AECA) in 1976. AECA placed controls on arms transfers prohibiting interaction with countries found to have systemic human rights violations.

C. FMS TODAY

From an Army perspective, Field Manual (FM) 3-22 states,

In order to meet the demands of a complex environment, Army forces require capacity and capability to prevent conflict and shape the security environment in partnership with joint and multinational forces. The Army provides enhanced security cooperation capabilities to support the combatant commander's theater strategic objectives. These include building defense and security relationships and partner military capacity, gaining or maintaining access to secure populations, protecting infrastructure, and strengthening institutions. Achieving these common security interests contributes to preventing conflict and prevailing in war. (Department of the Army, 2013, p. vi)

As budgets begin to decrease and we enter into another downsizing era, maintaining the defense industrial base will be a key political issue. According to an *AL&T* magazine article "Securing the Base" (Osborn, 2014, pp. 14–19), as the Army and DOD wrestle with fiscal priorities, one certainty to get congressional attention is how the DOD helps sustain the health of the U.S. defense industrial base. Methods such as multiyear procurements, Foreign Military Sales and industry outreach programs will

become essential. According to the Honorable Heidi Shyu, “Defense spending is projected to make up only 12 percent of the federal budget in FY17, down from 17 percent in FY13. Those numbers are a world away from the 49 percent of the federal budget consumed by defense during the 1960s. At the same time, the budget for research, development and acquisitions (RDA) is declining faster than the overall defense budget” (Shyu, 2014, p. 5).

The declining budget will have significant impact on our national security if not addressed. If a method to protect our defense industry is not resolved in the near term, Kris Osborn provides the following warning: “The United States is in danger of losing some key industrial capabilities that will be vital for our future national security. Insufficient near-term demand for certain products will keep some companies below their minimum economic sustaining rates, making it financially challenging to keep workers with unique, technical expertise active enough to maintain their proficiency in these advanced skills” (Osborn, 2014, p. 14).

1. Who Controls FMS

The Department of State is the agency to manage the U.S. security cooperation efforts through its different bureaus, offices, and overseas missions (Osborn, 2014). Security cooperation agencies conduct and coordinate activities throughout the combatant command through the theater army to build strong defense relationships. These efforts highlight U.S. security interests, develop our ally’s military capabilities for defense of their own nation and provide access by U.S. forces in times of need. In his article “Securing the Base,” Kris Osborn stated, “In its 2013 report to Congress on the health of the defense industrial base (IB), the Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy notes DOD’s tightening fiscal constraints and widespread concern about their effects on the IB” (Osborn, 2014, p. 14).

The policy office is focuses on industrial production capacity and the need to maintain a workforce with superior skills. Elana Broitman commented that to equip

warfighters we must have a healthy industrial base that continues to fund Research Development Test and Evaluation efforts (Osborn, 2014, p. 16).

In the Department of Defense (DOD), the Defense Security Cooperation Agency (DSCA) takes the lead on all foreign assistance military programs. DSCA executes the DOD Security Assistance and Security Cooperation within the control of Department of Defense Directive 5132.03, DOD Policy and Responsibilities Relating to Security Cooperation, dated 24 October 2008 (Department of Defense, 2008). A direct quote from DSCA's Security Assistance Manual defines security cooperation with assigned responsibilities:

Activities undertaken by the Department of Defense to encourage and enable international partners to work with the United States to achieve strategic objectives. It includes all DOD interactions with foreign defense and security establishments, including all DOD-administered security assistance programs, that: build defense and security relationships that promote specific U.S. security interests, including all international armaments cooperation activities and security assistance activities; develop allied and friendly military capabilities for self-defense and multinational operations; and provide U.S. forces with peacetime and contingency access to host nations. (Defense Security Cooperation Agency [DSCA], 2015, C1.1.1)

The process for executing an FMS case within DOD is quite complex and routes through multiple offices along the way to approval and a formal FMS case. These processes are in place to insure all the correct actions are taken to insure we are selling the right system to the right customer which is sustainable now and into the future. The process also includes notification to Congress in larger FMS cases. Figure 1, FMS Case Life Cycle, shows the various steps needed after accepting a request from a customer on through the development of a Letter of Acceptance (LOA) and implementation of the LOA and case execution. Although the case is written by the Army for Army FMS cases, DOD and the Department of State are also involved in the process insuring the acceptability of the product (DISAM, 2015).

3. How is FMS Executed within the U.S. Army

The U.S. Army supports combatant commanders with U.S. Army Foreign Area Officers who work within Security Cooperation Organizations (SCOs) at U.S. Embassies around the world. The SCOs are military assistance advisory groups, military missions and groups, offices of defense and military cooperation, liaison groups, and defense attaché personnel designated to perform security assistance/cooperation functions (Department of the Army, 2013). Figure 2, Security Cooperation Ends, Ways, and Means Framework, shows the detail and depth of the U.S. Army Security Cooperation Programs.

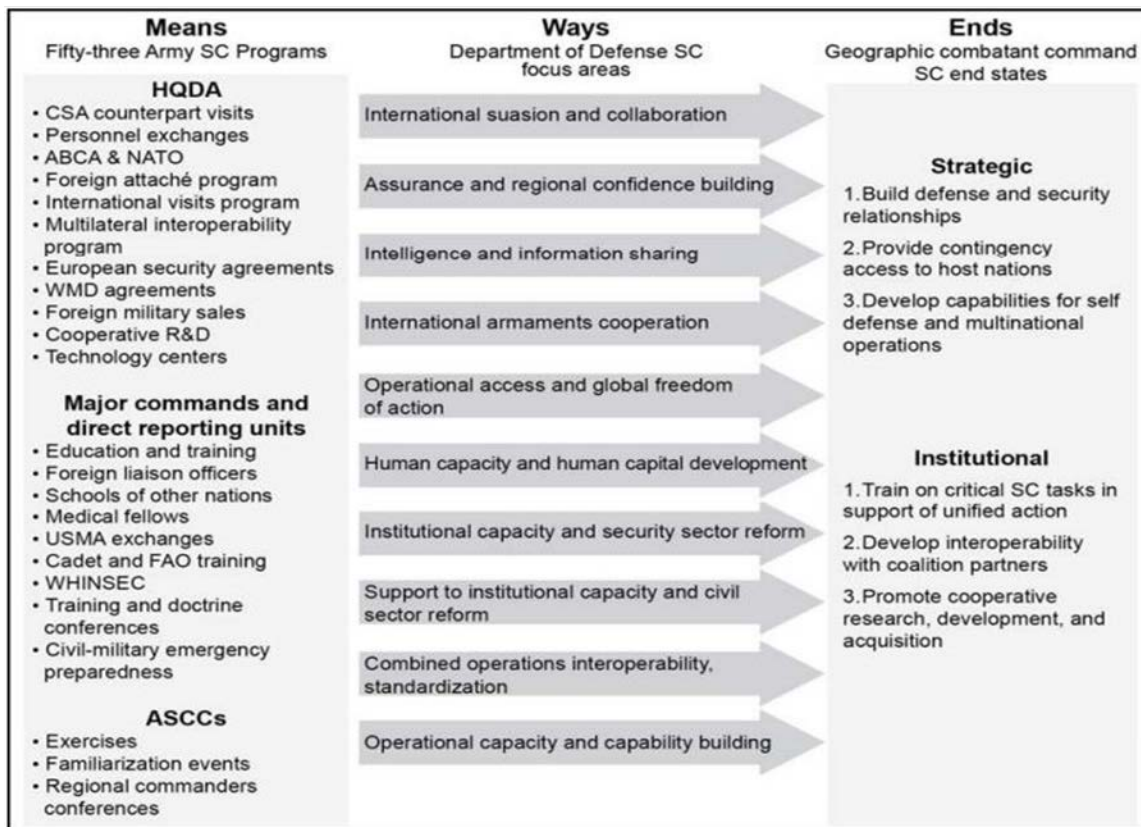


Figure 2. Security Cooperation Ends, Ways, and Means Framework (from Department of the Army, 2013)

4. Technology Transfer Issues with FMS Programs

The execution and planning of an international program can be a difficult endeavor, as shown in Figure 2, providing an overview of the ends, ways and means framework for security cooperation. Technology transfer issues are handled differently by each service. These issues include but are not limited to questions such as:

- Does the program have a current security classification guide? If not, is the security manager engaged and working it as a priority?
- What is the Critical Program Information (CPI) for this program, and how will we protect it?
- What is the feasibility of international participation, and who are the likely players?
- What kinds of technology transfers/disclosures are envisioned, and what is the timing? Who needs to approve the releases and when?
- What Controlled Unclassified Information (CUI) is associated with this program? Have we established procedures to protect the CUI?
- Is the cognizant Foreign Disclosure Office aware of our planning/actions, and is it engaged in developing a Delegation of Disclosure authority Letter to enable timely release decisions? (Schultz, 2013)

The top priority of the decision to move toward including international participation in the acquisition process must include responses from the above questions Brian Schultz penned in his 2013 Defense AT&L article. Identify program CPI in the beginning of a program driving the appropriate protection documents and plans. All complete acquisition program must have a valid program protection plan (PPP), security classification guide (SCG) and technology assessment/control plan (TA/CP) for domestic and international purposes (Schultz, 2013).

In today's acquisition programs, the prime contractor's supply chain is normally many layers deep. This depth leads to components procured from sources outside the United States to evaluate a program's supply chain for sources, which may pose a threat to the United States now or in the future. The evaluation is the backbone for developing the program protection plan and sound program protection planning (Schultz, 2013).

The use of commercial off the shelf (COTS) components in the acquisition program of today pose a threat. It is difficult to dig deep into some COTS components supply chain. Acquisition program must work hard effectively blocking attacks from U.S. adversaries. Market studies reveal other sources of the main component and its subcomponents.

5. Monetary Value of Military Assistance Programs Today

Today the Army has many acquisition programs providing access to Foreign Military Sales to support strategic partnerships around the world. The funding providing Military Assistance is significant and presents a real opportunity for the U.S. defense industry. Total military Assistance in FY2010 was \$15.1 billion with increases for both FY2011 and FY2012 over the FY2010 base as shown in Table 1, Total Military Assistance in U.S. Funding from FY2010–FY2012 (USAID, n.d.).

Table 1. Total Military Assistance in U.S. Funding from FY2010–FY2012
(from USAID, 2014)

Obligations				
Source: US Overseas Loans & Grants [Greenbook], http://gbk.eads.usaidallnet.gov/				
Prepared by USAID Economic Analysis and Data Services on March 28, 2014				
Country Name	Program Name	FY2010	FY2011	FY2012
Total	Military Assistance, Total	15,122,219,914	18,607,647,463	17,221,966,167

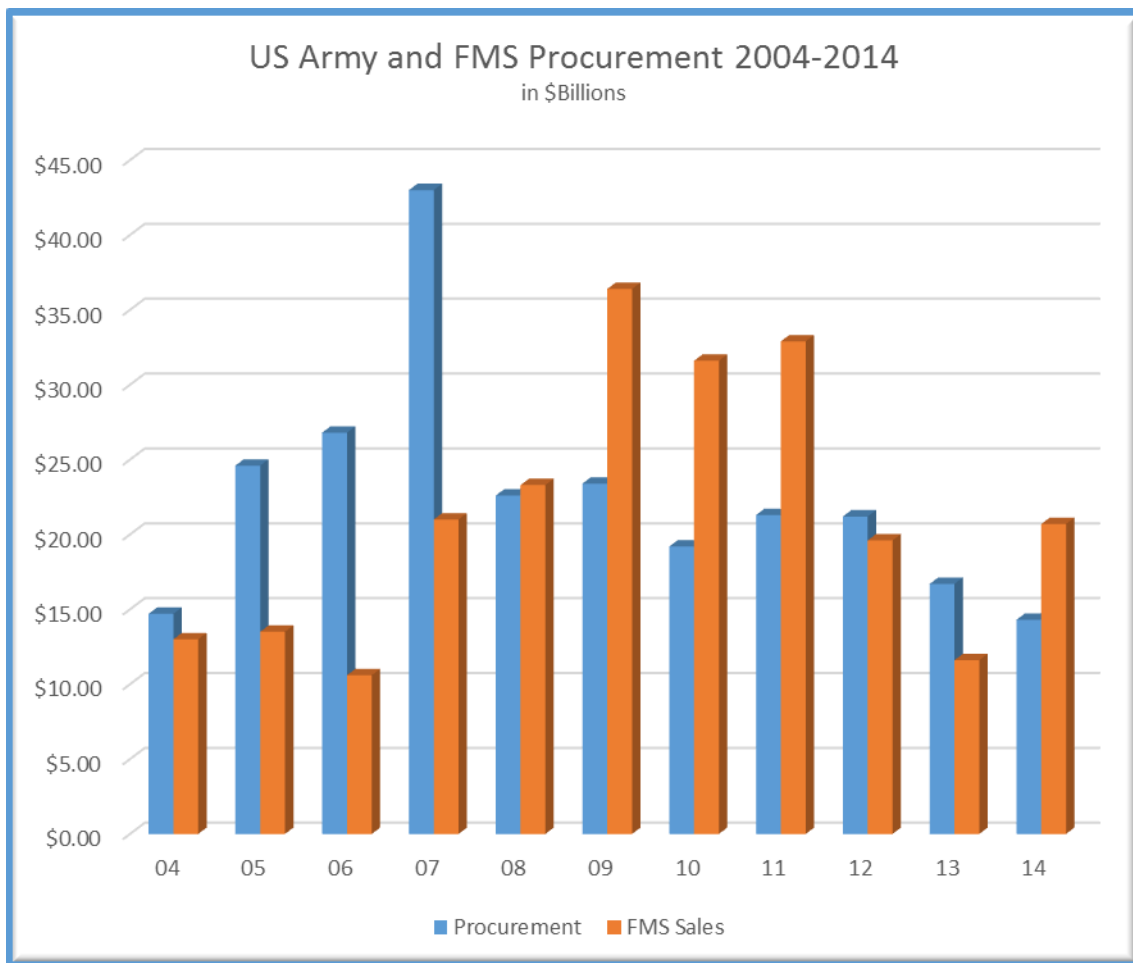
One of the United States' arms transfer banner year to date has been in 2011. As stated by Grimmett and Kerr:

In 2011, the United States led in arms transfer agreements worldwide, making agreements valued at \$66.3 billion (77.7% of all such agreements), an extraordinary increase from \$21.4 billion in 2010. The United States worldwide agreements total for 2011 is the largest for a single year in the history of the U.S. arms export program. (2012)

6. U.S. Defense Industry Importance

Table 2, U.S. Army and FMS Procurement, shows the volume of FMS sales compared to Army procurements demonstrating the positive influence FMS has on the Army. It is a positive influence as many FMS programs help fund technology advancements in the next generation of a product.

Table 2. U.S. Army and FMS Procurement (after Moore, 2016)



A strong, responsive industrial base is the foundation for our national security and enables the PM to leverage innovative technologies and cutting-edge capabilities to provide the best warfighting tools for our military. The industrial base is critical to keeping the United States one step ahead of its adversaries, benefiting both the PM and the defense contractors. These benefits stand out during periods of high budget outlays as evidenced during the post-9/11 Iraq and Afghanistan operations surge from 2002 to the present. However, the defense industrial base is entering a period of declining domestic military spending as we return to peacetime budgets.

Overall DOD total obligation authority (TOA) is declining, as evidence in Figure 3, Timeline of U.S. Defense Budget History, shows. The decline is from a high of \$644

billion to just over \$500 billion (Heritage Foundation, 2015). Fiscal realities of maintaining near term readiness necessitate changes in Acquisition investment strategies. At the same time, we must balance near term readiness vs. desired future capabilities while predicting where the next crisis will erupt. PMs must ensure that their funding and schedule are harmonious and need to leverage foreign military sales to protect the industrial base during the peacetime years as available funding declines.

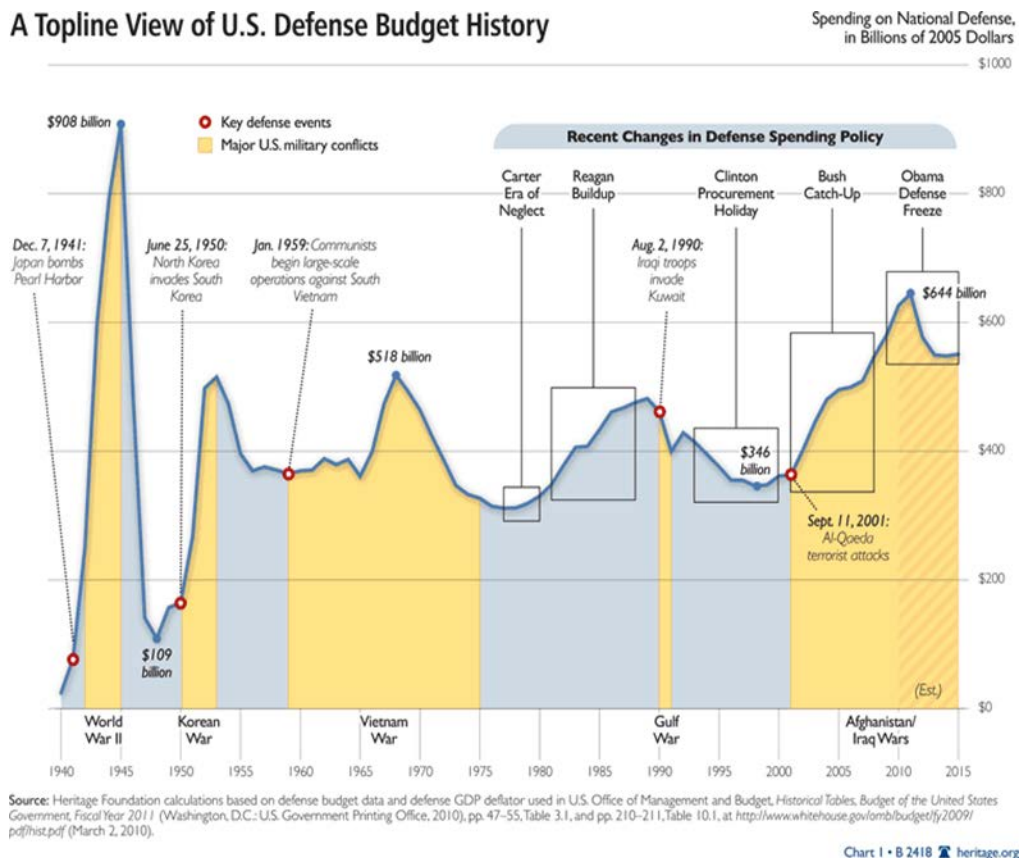


Figure 3. Timeline of U.S. Defense Budget History (after Heritage Foundation, 2015)

Take for example the ongoing saga of the Army's subsidy of the Tracked Wheeled Vehicle (TWV), which saw a dramatic production increase in response to the operational demands and threats experienced in Iraq and Afghanistan. In the GAO-12-859 report to Congress on the industrial base, U.S. tactical wheeled vehicle manufactures

were shown to face a period of uncertainty as DOD purchases decline and FMS sales remain flat (GAO, 2012). GAO depicted the strong reliance on the seven manufactures of TWV industrial base have on the defense budget. As the defense budget decreases and the current movement of the military to sell used TMV vehicles to our coalition partners continues, these actions further exacerbate financial uncertainty. However, does that mean we should keep a production line when we already have excess quantity? How can we afford to do this in light of shrinking RDA budgets and limited funding to rapidly develop and field critical new products to the warfighter? You can replace people but you can't replace the brain power that comes with years of experience (GAO, 2012).

During the downswing after post conflict engagement, the industrial base appears to be more vulnerable to loss of key workforce skills. In fact, as highlighted in the myriad of industrial base articles in the Jan-Mar 2014 Army Acquisition and Logistics Magazine, many essential capabilities and workforce skills that are crucial to our Soldiers' decisive edge over our enemies could disappear unless we do something to protect them (USAASC, 2014). The issue at hand in facing fiscal year 2016 is the preservation of the most essential of the highly specialized capabilities during an austere budget environment. While budgets may not allow for the procurement of new weapons for our own military at the rate many would like, we need to maintain the ability to ramp up for a future conflict. One way to preserve our domestic industrial base is to promote the sale of our defense materiel to friendly nations who may very well be allies in the next conflict. That is where FMS comes into play (USASAC, 2014).

TOA for the U.S. Army is set to decline 17 percent from Fiscal Year 2012 to Fiscal Year 2016 (Harned, 2014). Figure 4, Declining RDA TOA, shows this decline triggered by sequestration. Decreasing and leveling defense budgets create a significant void in profitability and sustainment of the U.S. defense companies. This is a major concern with U.S. government organizations to sustain the domestic defense industrial base (Center for Strategic & International Studies [CSCI], 2013).

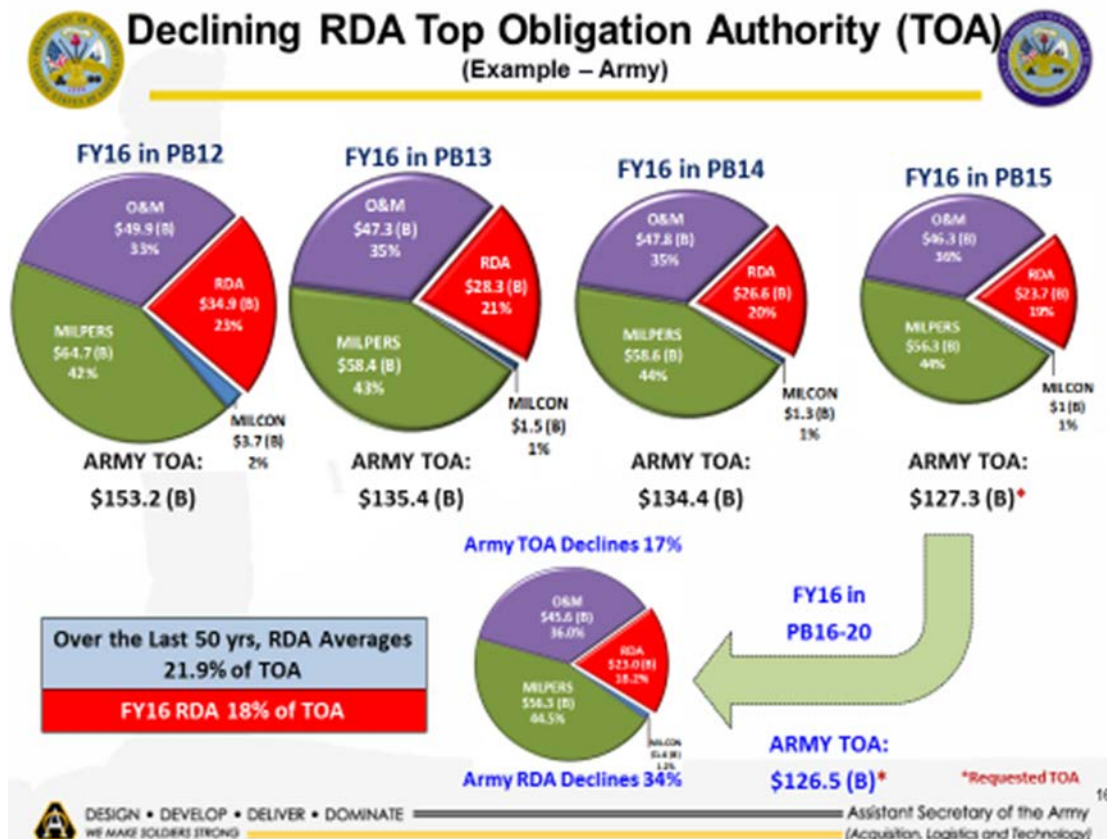


Figure 4. Declining RDA TOA
(after Harned, 2014)

Along with the shrinking defense budget, RDA in FY14 was \$23.5 billion. That is down over 28 percent from FY12 RDA budget of \$33.2 billion (Shyu, 2014). The U.S. defense industry, as with any business, needs to sustain and grow its revenue generating function or they will go out of business. As the defense budget shrinks these companies need another source of revenue to remain viable and ready to support U.S. demands when the defense budget begins to turn upward. With the near term defense budget under threat of sequestration and stable acquisition program funding lines, the defense industry needs to find the means to continue company growth opportunities.

There is a hidden danger in relying solely on FMS as budgets dwindle and defense contractors seek other opportunities to meet stockholders equities. While some defense companies look across other Service branches such as Homeland Security or the State Department, companies are compelled to diversify the industry base by competing

for FMS cases. The PM office and the defense industry must leverage FMS to garner price breaks and reinvest those dollars into technological advancement. If we do not and just wait until the next crisis, other countries will be more than willing to take our place in the large FMS trade (e.g., France [Airbus]) or more rapidly respond to customer needs than the cumbersome U.S. FMS process. Sometimes FMS can help keep the production lines open; however, our foreign allies generally want the most recent piece of equipment that they have become aware of, whether during observation in conflict with our soldiers or by other means. The foreign countries generally do not want the prior generation of anything and that is where the delicate balancing act of protecting the U.S. interests while sustaining the industrial base. If there is a bona fide need for a system, such as aircraft or protection devices, sell the past generation, learn and retool and use the savings for reinvestment into the next generation enhancements. One caution - we should not sustain certain aspects of the industrial base just for congressional interest.

The Army has not been successful in conveying actual combatant needs vs congressional special interest in maintaining their respective state industrial base. Table 3 is relevant as it depicts how much power Congress and the industrial base has in purchasing power for TWW purchases the Army does not need. Instead of using those dollars for development of critical material solutions and exploitation of newer technology for emerging global combats, Congress mandated dollars to continue funding TWW that did not meet a critical Army capability gap.

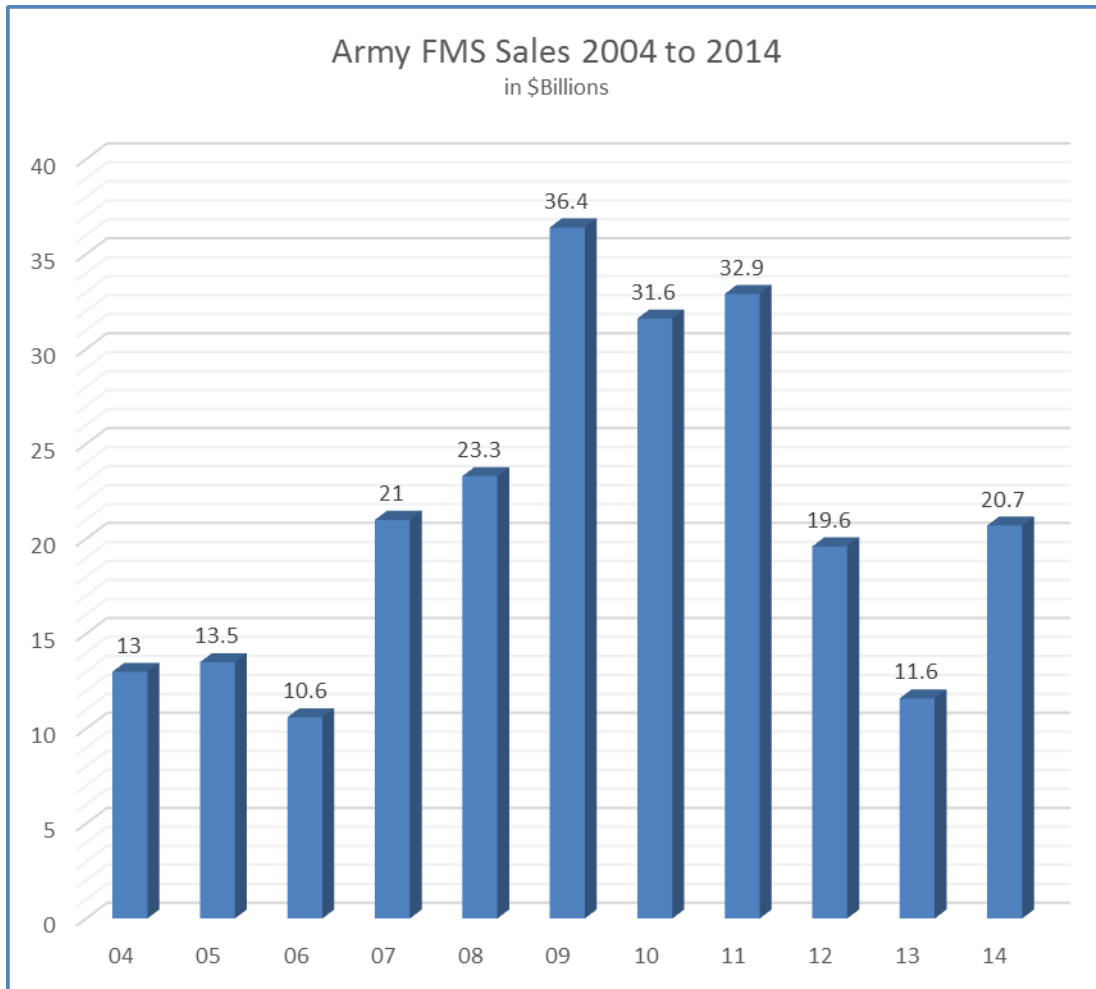
For many years, the Army has been vocal in stating to Congress that they do not need any more tanks according to an article on Military.com (Cox, 2015). In fact, the Army Chief of Staff General Ray Odierno has criticized the congressional mandated additions for tanks the army did not need nor afford. The 2012 defense appropriations bill added \$255 million for 42 tanks. Congressional lawmakers have always prevailed and now according to a National Defense article, "Army Changes Course on Tank Production" (Erwin, 2015), shows Congress has continued in protecting jobs and the industrial base facilities in Ohio and Alabama, where heavy combat vehicles are produced and refurbished. The Army had always maintained that foreign military sales would keep the industrial base afloat until the Army was ready to procure the next

generation of tanks in 2019. Congress disagreed with the Army's vision of foreign military sales to bridge the industrial bridge gap and added \$120 million for the M1 Abrams tank upgrades and \$128 million for Stryker and Bradley work. One of Sen. John McCain, Senate Armed Services Committee chairman, top priorities for the upcoming budget cycle is to ensure strong service chief involvement. The Army has acquiesced and decided to stop fighting Congress. The Army is asking Congress to approve \$367 million in 2016 for upgrades for main battle tanks primarily in the form of engineering change proposals to enhance the Stryker with larger double-V hull to protect vehicles from buried bombs. The change perhaps can be attributed to the assumption Army leaders had that foreign customer orders would keep the Lima, Ohio plant financially viable until 2019 which is operated by the Abrams manufacturer General Dynamics Land Systems. The question still remains if this concession by the Army will be enough to satisfy Congress. The Services agree that the current funding posture is not sufficient to meet strategic missions under the National Defense Strategy (NDS). That will win the next war which most likely will not be ground combat but more the realm of cyber and close hand combat, protect the home front and adjust for sequestration cuts.

7. Monetary Value of Army FMS Today

It is obvious from Table 3, Army Foreign Military Sales in Billions of Dollars, FMS sales have doubled in the just the past 10 years. There are years during the 2004–2014-time period in which sales where sales have tripled such as the 2009–2011 period. The 2009–2010 period includes some very big procurements like the \$10B United Arab Emirates buy of the Patriot Missile System and the \$33B Saudi Arabia buy of rotary wing aircraft.

Table 3. Army Foreign Military Sales in Billions of Dollars (after USASAC, 2014)



Challenges facing the U.S. defense industry were discussed by the panel put on by Aerospace Industries Association (AIA) (Mehta, 2014), for export reforms. Ken Handelmann, the Deputy Assistant Secretary for Defense Trade Controls in the State Department's Bureau of Political and Military Affairs, Kevin Wolf, Assistant Secretary for Export Administration at the Commerce Department and Beth McCormick, Director of the Pentagon's Defense Technology Security Administration all spoke of the importance of security assistance in support of our defense industry (Mehta, 2014).

The participants in the panel exert final control over many decisions for export items from our U.S. industries. Their presence at the AIA demonstrated the importance of

this issue. “We have tried to show our face here so we’re not ‘these horrible people who control technology,’” McCormick said, adding, “We have started to have a presence by our agencies at these kind of international events, and started doing so about a year ago.” McCormick added that the “face-to-face” interaction with the international community at these events is helpful (Mehta, 2014).

Industry members asked the trio questions about how reform efforts were advancing and old agreements that restrict the sale of unmanned systems. “There will be a lot to say in due course that is very helpful to exporters and also to our allies who have been hoping to take advantage of the very good technology U.S. companies produce, but right now that process is still internal to the U.S. government,” Handelman said. “We have listened to that, we know it is important for industry to hear that, but please stay tuned” (Mehta, 2014).

While waiting for reforms market share migrates to foreign industry. “We have a tendency to wait until the market is half gone before the bureaucracy finally understands that the horse is not only out of the barn, but someone else is riding it,” said Joel Johnson of the Teal Group (Mehta, 2014).

The U.S. defense and commercial industries need details and soon. Frank Kendall, the Pentagon’s acquisition chief stated:

In general, they would like clarity about what we are able to do with them. They like a responsive system that acknowledges their need and gives them answers to the questions they have. The thing I hear very often is they think the U.S. has top-quality systems, and business deals with the U.S., when in place, are executed as planned, and the U.S. does a very good job fielding the systems. There are a lot of things that are attractive about U.S. products to allies and I hear that very consistently. The message I am trying to communicate [is] that the U.S. is standing behind the products that are offered....International customers continue to buy U.S. military equipment, many are shifting toward foreign sources with less cumbersome sales processes. (Mehta, 2014)

Kendall said:

The message I’m getting is there is a high demand for those products, [but] people want to see us do a more expeditious process of getting their requests resolved. The international market may be fertile, but U.S.

companies may find challenges expanding their business there—even with a full-court press from government leaders....I think it is always wise to remember that foreign markets don't expand because U.S. and E.U. manufacturers need them to....Markets for defense products, like all others, depend on two things: needs and resources to meet those needs. In every U.S. build-down I've seen, the combined “capture goals” of the U.S. companies invariably exceeds total foreign demand. (Mehta, 2014)

Table 4, FMS Cases and Value in billions, shows the value of FMS supported by each service and some agencies is significant. These dollars are critical to sustaining the U.S. defense industry.

Table 4. FMS Cases and Value in Billions of Dollars (from Grover, 2012)

Implementing Agency	Number of <u>Open</u> Cases	Total Case Value (Billions)
Army	4,809	135.3
Navy	3,963	74.2
Air Force	3,394	168.4
Other Agencies	766	7.0
Total	12,932	385.0

As of 9 Mar 2012

There are two ways the U.S. defense industry can grow their business, Direct Commercial Sales (DCM) and Foreign Military Sales (FMS). There are several benefits to using the FMS method for the foreign government. Table 5, Foreign Military Sales versus Direct Commercial Sales, is a comparison between both methods.

Table 5. Foreign Military Sales versus Direct Commercial Sales (from LMDefense, n.d.)

	Foreign Military Sales	Direct Commercial Sales
Nature of Relationship	The U.S. DOD will negotiate with the Customer on behalf of the Vendor.	Customer negotiates directly with the Vendor.
United States Government Involvement	The U.S. DOD assumes contracting risk and is responsible for ensuring that the Vendor meets cost, schedule, and performance requirements. The U.S. DOD guarantees payment by the Customer.	U.S. Government (USG) is not involved in the transaction, and does not act on behalf of the Customer or Vendor should complications arise.
Export Licenses	This is a government-to-government transfer, so the export process is managed by the U.S. DOD. No involvement by the Vendor is required.	The Vendor must obtain export approval from the U.S. State Department. The Vendor is responsible for submitting a completed DSP-83.
Congress notification	Any required notifications to Congress are jointly sponsored by the U.S. DOD and the State Department.	Congress must be notified by the State Department of a decision to issue an export license if the sale includes significant defense equipment valued at \$14 million or more. (Basically, both DCS and FMS require the same type of notification)
Contract Issues	U.S. DOD procures the defense articles under the same	The Vendor negotiates with the Customer. The Customer assumes

	Foreign Military Sales	Direct Commercial Sales
	contractual provisions used for all DOD procurement. The Customer pays an additional 3.5% of the total price to cover the contracting and administrative services provided by U.S. DOD.	management responsibility. These activities represent overhead management costs to the Customer. The size and skill of the Customer contracting staff may be a limiting factor during procurement.
Cash Flow Requirements	The initial deposit required is usually somewhat lower than commercial contract down payments. This facilitates payment by the Customer.	Direct commercial contracts generally require a relatively large down payment, payable at the time of contract signature. This may create difficulties for the Customer.
Availability of Foreign Military Financing Program (FMF) Funding	U.S. financial assistance, through the Foreign Military Financing Program (FMF) may be available to the Customer. If FMF funds are available, they must be processed through FMS (except for the ten countries granted an exception).	If the Customer wishes to use FMF funding, DCS is not an option. Ten countries are granted an exception that allows them to use FMF funding to pay for DCS contracts: Israel, Egypt, Jordan, Morocco, Tunisia, Turkey, Portugal, Pakistan, Yemen, and Greece.

Notes and abbreviations: U.S. DOD refers to any U.S. military office. There are various DOD offices involved in the FMS process; Vendor refers to the U.S. defense company seeking to sell their product overseas; Customer refers to the Foreign Government purchaser of the U.S. defense products.

8. Leveraging FMS

When industry leverages FMS the Security Cooperation Agency manages the licenses and Congressional notifications when required. The DOD will work with the customer and make sure the provider gets paid. This increases the success of the various companies.

FMS is a little known yet dynamic process that pays big dividends for the U.S. government and our international partners. From the industrial standpoint, billions of dollars are invested annually in the U.S. economy through the FMS process. From the PM standpoint, it provides a way to accelerate enhancements and capabilities through the infusion of funds. For the pilot in the cockpit, the enhancements on the aircraft directly affect warfighting capabilities. (Williams, 2015)

The benefits to the U.S. defense industry base is clear. What is also clear is the benefit to the DOD and Army for sharing the acquisition of enhanced capabilities using the FMS investment of funds. Economies of scale can be achieved by bulk purchases thereby reducing the total cost per end item for the DOD and the foreign partner (U.S. Army G3/G7, 2010). According to Brigadier General Tucker, Commander, Security Assistance Command, Redstone Arsenal, Huntsville, Alabama:

The highest was FY 2009, when we had \$24.2 billion in foreign military sales. We had a couple of very high value cases that year. One of those was the Patriot sale of more than \$6 billion in value. That was the single largest FMS case by a [Security Assistance Management Directorate] and it was [Aviation and Missile Command (Army)'s Security Assistance Management Directorate (Army)] that supported it. (Hawkins, 2010)

BG Tucker stated in his briefing, "New Army FMS in fiscal year (FY) 2010 totaled \$14.6 billion spread across 701 new cases, 462 modifications, and 1017 amendments. This increased OPTEMPO is representative of a trend over the last several years, as evidenced by a total of \$62 billion in Army FMS from FY07 to FY10; the four-year period immediately prior saw only \$18 billion in FMS" (U.S. Army G3/G7, 2010). As BG Tucker has shown through the dramatic increase in FMS over the past fiscal years, FMS is an essential part of acquisitions.

Those figures should continue upward as the interest in purchasing Army capabilities continues among the nation's international partners and

partner nations continue in a good financial posture. True to that trend, recently DOD announced notification of \$60 billion in potential sales to the Kingdom of Saudi Arabia. USASAC has about 350 employees currently managing about 4,600 FMS cases valued at more than \$69 billion. (Hawkins, 2010)

There is sufficient evidence supporting the continued effort to develop international partnerships. The value to the U.S. Industrial Base, the Army and the United States certainly supports this effort.

III. FMS VALUE IN ARMY ACQUISITION PROGRAMS

The majority of new programs or new orders for the M1 tank for example in 2015 are coming from foreign military sales, currently the largest customer is Saudi Arabia with a total of 66 billion (Defense Industry Daily Staff, 2013). It is clear at this point in time that from 2013 to 2015 there has been a drastic increase in foreign military sales of Army acquisition programs. The increase in FMS clearly shows the United States foreign policy is supporting one of its primary objectives. To ensure that its allies and partners are able to fully participate in coalition efforts to defeat terrorism and terrorist organizations around the globe. Figure 5, M1A2 Unloading from C17, shows the massive M1A2 tank being offloaded on foreign soil.



Figure 5. M1A2 Unloading from C17 (from Gordon, 2015)

Some of the benefits of foreign military sales is a transfer of newer technologies to our outlying coalition partners. This enhances coalition force operation and potential use of supply lines across international organizations. Improving the technology of our allies and coalition partners supports United States national defense priorities and national security interest.

Major international sales have helped to sustain production of a number of Army programs in recent years, including the Apache, the CH-47 Chinook helicopters, the Patriot missile system, Excalibur 155mm precision-guided artillery shells, and the Guided Multiple Launch Rocket Systems and Javelin anti-tank missiles. (Murawski & Mewett, 2014)

As a project manager, the ability to insert new technology that has already reached readiness level is limited by available funds. Those dollars that are in the approved appropriation for a weapon system are mission dollars. The benefit of FMS is the infusion of additional funds outside of the usual appropriations for that system which may allow a PM to bring new technology and upgrades into a system sooner. The Army CH-47 program leveraged proceeds with remanufacturing dollars to procure the new CH-47Fs at no additional cost to the Army or DOD. This methodology could be utilized by many Army efforts to reduce the cost of technology insertion into various products. The U.S. forces and foreign nation utilizing the weapon system will benefit. An additional benefit is the ability to interoperate when executing military actions as part of a coalition.

The issue of establishing partnerships and supporting Foreign Military Sales has not escaped top leadership.

The Army is taking a proactive approach to ensure the preservation of those critical and essential capabilities needed for future short-and long-term operations. In order to identify the risk and issues impacting the industrial base, the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (OASA(ALT)) has established collaborative efforts with major players such as the Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Logistics Agency and the U.S. Department of Commerce and the Defense Contract Management Agency. (Millan, 2014)

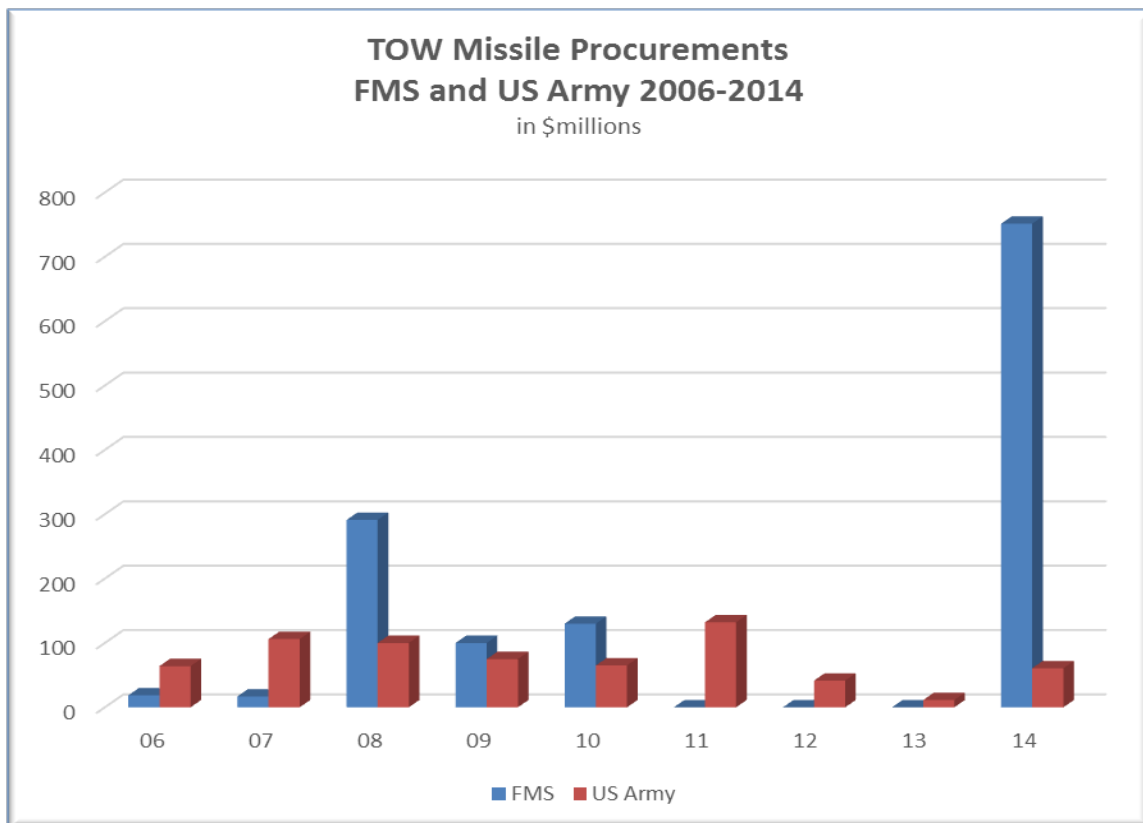
The PM works to include FMS within their programs from program inception on through initial deliveries.

A. COMPARATIVE ANALYSIS OF U.S. ARMY/MARINES VERSUS FMS TOW AND JAVELIN PROCUREMENTS

1. TOW Procurement Analysis

Table 6, U.S. Army and FMS TOW Missile Procurements, illustrates the U.S. Army and Marine's TOW Missile procurements alongside TOW FMS sales from the same time period. Data shows the U.S. procurements equal to or ahead of FMS for 5 of the 9 years in this table. FMS procurements outpace U.S. in 2008, 2009, 2010 and 2014. The FMS sales from 2008–2010 depict a time when CENTCOM forces began planning for the pull out of Iraq and Afghanistan. The high sales in 2014 for FMS is a direct result of increased coalition partners' requirements as they respond to the most recent threat of Islamic State of Iraq and the Levant (ISIL) or (ISIS) and the return of Taliban forces in the CENTCOM AOR.

Table 6. U.S. Army and FMS TOW Missile Procurements
(after USASAC, 2014)



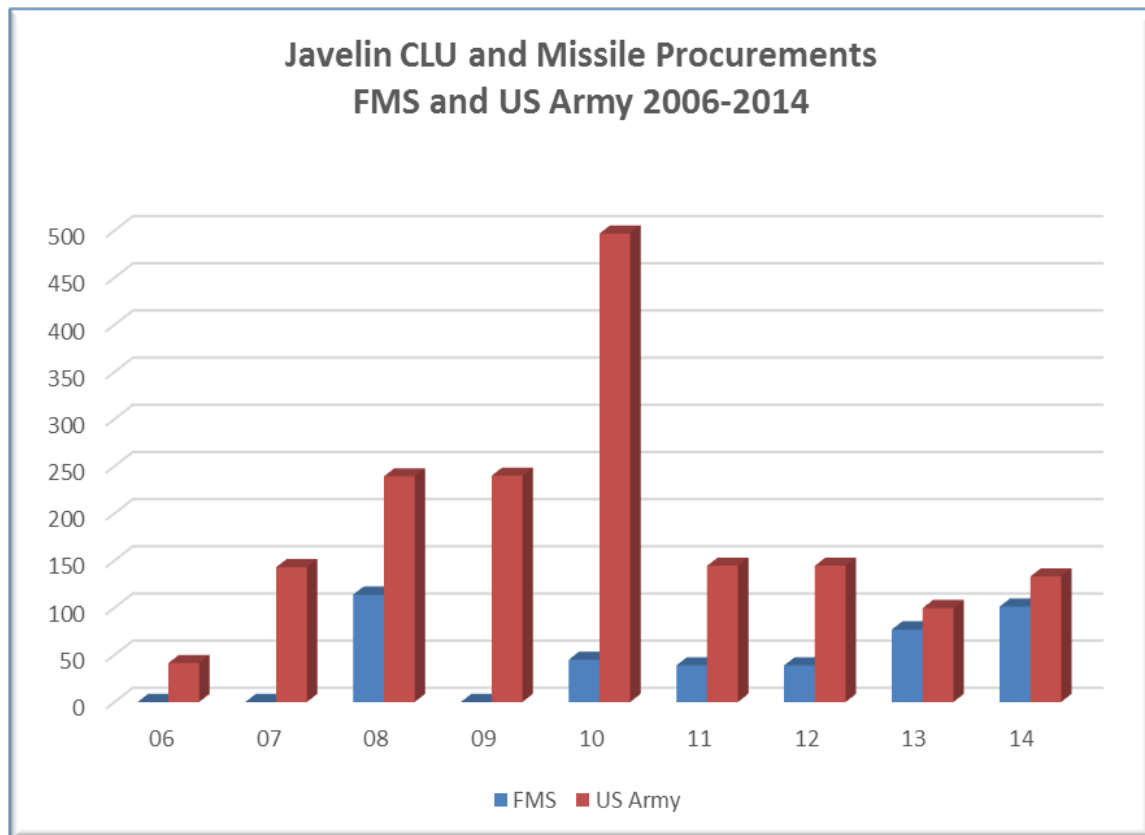
These numbers in the table represent a coalition of foreign countries beginning to realize they are soon going to be alone in their struggle in the Middle East against ISIS and the Taliban. FMS procurements spike during these times which offset the reductions in U.S. Army and Marine TOW procurements as our forces use less Anti-Tank Missiles in combat actions.

2. Javelin Missile and Command Launch Unit (CLU) Analysis

U.S. Army and Marine procurements from 2006–2010 begin to rise dramatically for the Javelin Anti-Tank Guided Missile (ATGM) system as our commanders continue preparations to fight in an asymmetric battlefield. The Asymmetric Battlefield is where a Javelin is used at its best. The Javelin is used where enemy forces are all around friendly forces. A battle where special military operators are working to defeat pockets of resistance.

Table 7, U.S. Army and FMS Javelin Missile/CLU Procurements, illustrates sales on a constant rise from 2009 to 2014 as our coalition forces plan to take the fight to the insurgents and the ISIS threat as the U.S. forces begin their withdrawal from the CENCTOM AOR. This table illustrates as U.S. procurements fall off from recent highs during the peaks of war like “the surge” our coalition forces increase their procurements.

Table 7. U.S. Army and FMS Javelin Missile/CLU Procurements (after USASAC, 2014)



B. U.S. PROCUREMENTS VERSUS FMS PROCUREMENTS OF LIKE SYSTEMS

1. Procurement Data Demonstrates the Needs of Our Coalition Partners

Table 7, U.S. Army and FMS Javelin Missile/CLU Procurements, also demonstrates how FMS sales ramp up when U.S. Forces begin their retrograde actions from the AOR. There are reasons for increased requirement for U.S. weapons.

1. FMS customers have seen our weapons in action first hand and know their capabilities.
2. Coalition Partners/FMS customers realize they are soon to be alone coping with insurgents and groups like the Taliban or ISIS. They know without similar weapons used to beat back the enemy when the U.S. Forces were there they will have little success in defending their borders and cities from attack and take over.

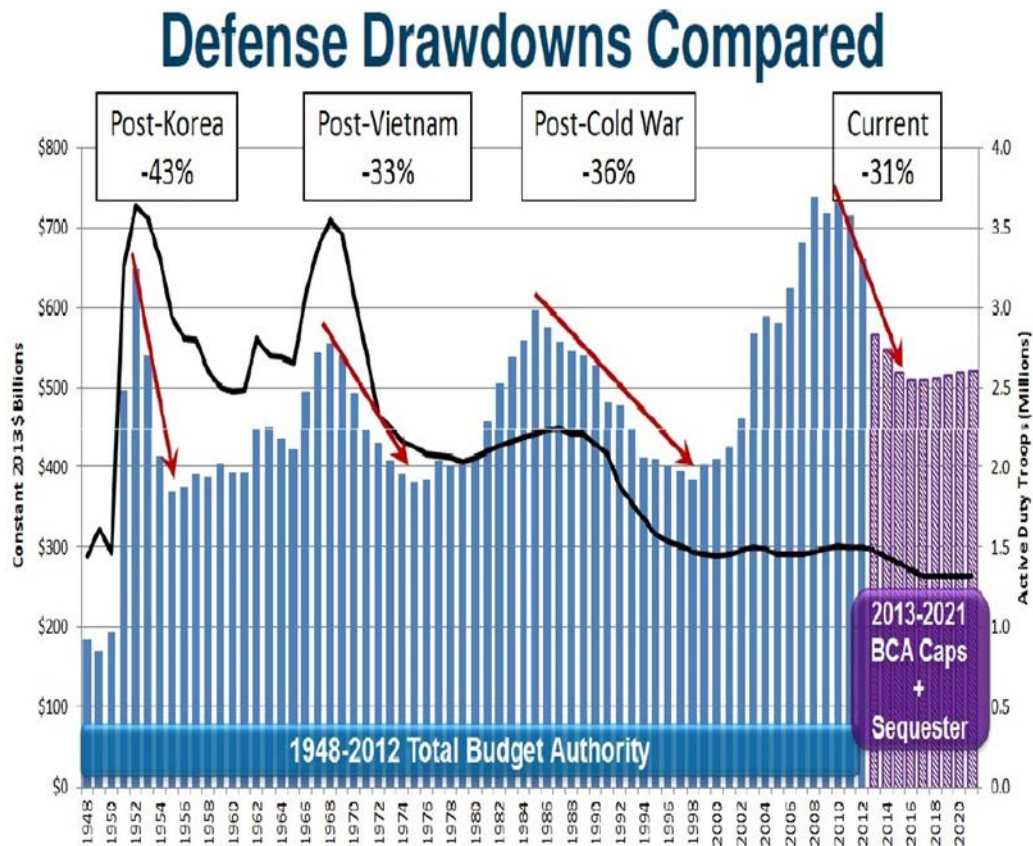
2. Program Manager's Focus in Times of War

PM efforts are focused heavily on U.S. procurements in times of war. The PM is extremely busy executing the procurement actions he has been funded for. The PM is also very busy pushing and managing the defense industry to meet their projected schedules on time and within budget. The PM's eye is constantly on meeting the requirements of the U.S. warfighters and executing the U.S. taxpayer funding provided to him from Congress.

This is the time when the PM must also concentrate efforts with the FMS customer by providing briefings to U.S. Forces Commanders in the AOR. The local U.S. Forces Commanders can provide positive assistance with the foreign coalition forces providing them capabilities information, aiding the coalition procurement officials with the information needed for their procurement processes.

Table 8, Total Defense Drawdowns Post-War, depict how fast times of relatively high budgets fade. The PM cannot wait for the quick drop in procurement funds but instead be planning for it since history shows it is a given to occur.

Table 8. Total Defense Drawdowns Post-War (from CSCI, 2013)



3. Increased FMS Sales Equals Exponential Gains

The increased procurement of new FMS procurements allows the PM to have more flexibility and control over program deliveries. FMS additions to U.S. procurements allow the Prime Contractors the ability to secure longer, lower priced contracts with their suppliers. This provides benefit at all levels of production when producing a complex weapon system. Suppliers experience times of security allowing them to hone their production processes. Suppliers work constantly increasing production capability allowing them to work through and mitigate obsolescence issues with their components.

FMS is a constant value to a U.S. Army Acquisition Program if properly planned for and executed. Our coalition partners and foreign customers will not always procure their U.S. military equipment at the exact right time needed to insure seamless contract and production operations. The PM does not have control over FMS customer budget and

acquisition cycles. Because of the gains related to FMS sales the PM should always keep FMS up front in his planning on a constant funding source for his particular product.

IV. CONCLUSIONS, RECOMMENDATIONS, AND FURTHER RESEARCH

A. CONCLUSIONS

Program Managers need to be engaged early and often to support FMS

It is clear the PM's Impact to Foreign Military Sales early in the process is beneficial to the success of the program. PMs bring a full understanding of production schedules, contracts and priorities associated with deliveries. They must be careful to not cross ethical lines while supporting our partner nations understanding of a product. They must not be salesmen for the item but rather the lead U.S. government advocate demonstrating confidence in the product. It is a difficult line to walk but one from which the PM cannot stray.

PM tools to help coordinate FMS actions

The PM has the contractual and production knowledge at his fingertips and can present this to any cleared customer for their review and initial planning. The more countries a PM can brief his program to, the more possible customers he is likely to gain. He can coordinate these briefings through the Offices of Military Cooperation (OMC) and Offices of Defense Cooperation (ODC), which are normally located within the host nations U.S. Embassy. Through coordination with the entire Security Assistance Enterprise, the OMCs or ODCs the PM can gain access to the correct officials within the host nation with the power to make acquisition decisions.

B. RECOMMENDATIONS

Essential and detailed guidance needs to be provided to the PMs so they clearly understand their lead role in FMS. The PM must understand, through data demonstration, how FMS can and will add positively to his acquisition program. FMS must be taken from a support part of the PM's Acquisition Program to an essential part with associate milestones.

Education program to ensure Army acquisition professionals understand the complete benefits FMS brings to the Nation, the U.S. industrial base, international relationships, coalition interoperability and strengthening military-to-military ties.

C. FURTHER RESEARCH RECOMMENDED

Our research team focused our research on FMS as it pertains to the U.S. Army because we all work for the Army. We suggest a multi-service research team extend our research and compare the services to verify our findings.

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