



Strategic Tripartite Historic Opportunities for US and NATO Ground Combatants

**by Jim Schatz
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Introduction, Caveats



This paper represents the **educated opinions of the presenter**

- **As an independent consultant the presenter has no affiliation** with nor does he receive any compensation what-so-ever from any small arms, ammunition or ancillary equipment manufacturer or provider
- The presenter has been a **member of the small arms community since 1977 in most roles** to include end user, trainer, developer, support provider for more than 150 US and foreign friendly organizations, and an advocate for the small arms end user



Content



A “snap shot” look at three topics that would greatly benefit the ground combatant, small arms end user, NATO, the small arms industrial base and the tax payer
today and always

- Part I The US Carbine Upgrade and new Individual Carbine (IC) programs – Explore the state-of-the-science currently available**
- Part II A Joint NATO Small Arms and Ammunition Development/Fielding Program – The merits and benefits of**
- Part III The User Small Arms and Ammunition Advisory Panel (USAAAP) – The need for**



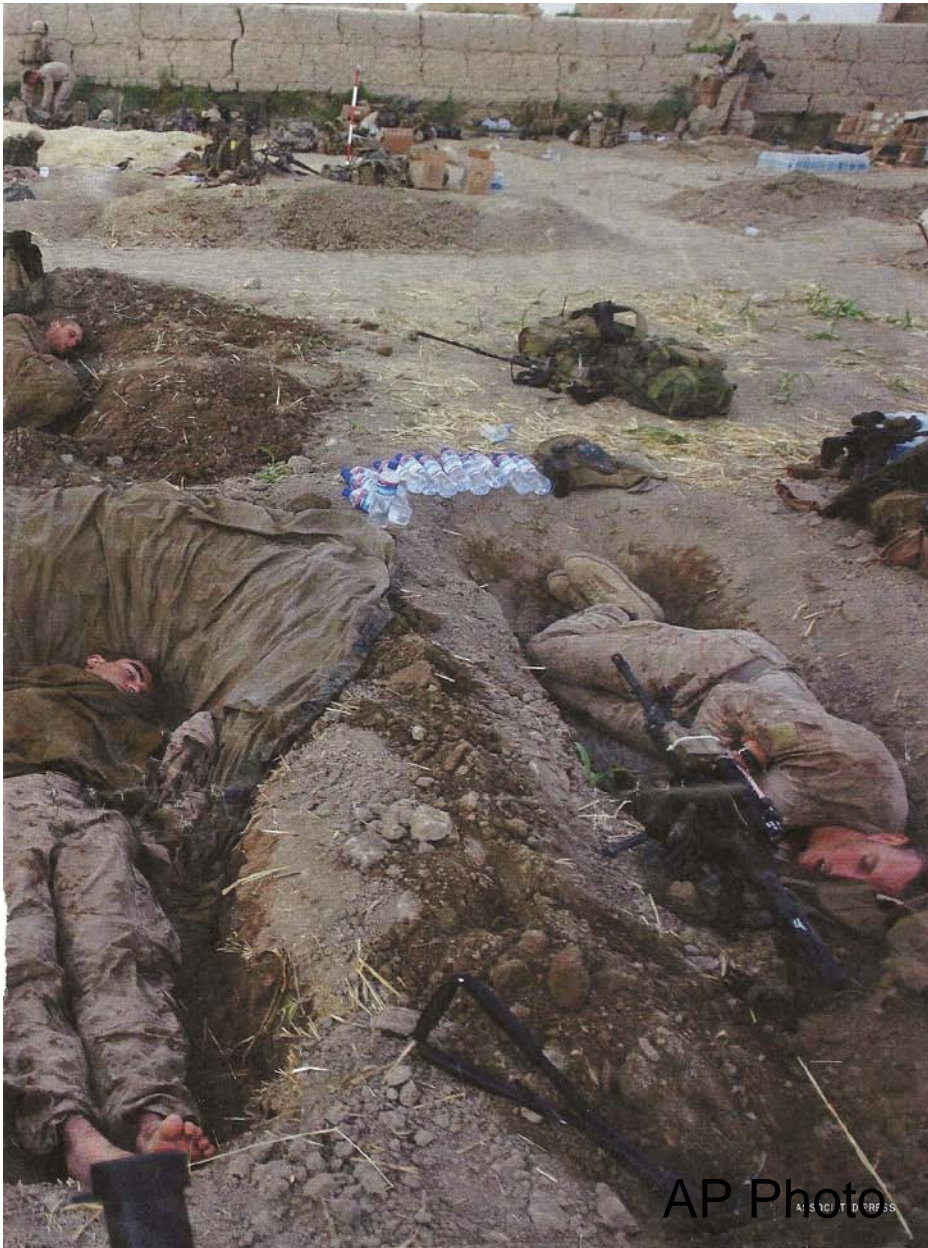
Purpose



- 1. Explore historically strategic but fleeting opportunities to exploit substantial and available incremental and/or evolutionary improvements in small arms and ammunition performance for US and NATO ground combatants.**
- 2. Capitalize on parallel programs within NATO with similar goals, requirements and challenges:**
 - Not since US AR-15/5.56mm adoption (1960's)
 - Not since the 1977-1980 NATO trials
- 3. Exploit the Low Risk Benefits of “the 90% solution”.**
- 4. Discuss the advantages of a NATO common modular/ user-configurable rifle system & optimized cartridge.**
- 5. Give the Small Arms End User a seat at the decision making table.**



Where did you sleep last night?



We owe these
brave men and
women, who engage
with and destroy the
enemy with small
arms the very best
now and always!

Men of the 1st Battalion, 5th Marines,
Helmand province, Afghanistan
8 July 2009 resting after marching
for 6 hours in 135 degree F heat with
120 pounds of equipment.

AP Photo



Part I

US "Individual Carbine" Initiatives



- **Substantial advances in rifle technology have been realized since the mid-1990's:**
 - **NLT 35 Op Rod Carbines since 2003**
 - **Improved magazines, barrels, piece parts, mounts**
 - **Numerous new rifle rounds/projos since 9/11**
 - **"Blind-to-Barrier" rifle ammunition**
- **Business and New Product Development has flourished since/as a result of 9/11, OIF/OEF and 2008 US election "Panic Buying". *Industry is ready!***
- **As a result Industry IR&D and Select Govt Programs (JCP, MSR/PSR, SCAR, XM8, MURG, SOST, etc.) have advanced the state-of-the-science not only in rifles **but in handguns, LMG's, AGL's, also.****



Historic Opportunities



1. “Individual Carbine” (IC) Competition

- The first since the M1 Carbine competition in 1940.
- Will/may explore the long-standing issue of 5.56mm/M855 terminal effects **IF industry responds with solutions to the enhanced terminal effects requirements**
- Sadly not looking for a “modular family of weapons”

2. Carbine Upgrade Effort

Carbine Upgrade (and IC competition) efforts – 20 or more competent, mature, responsive submissions likely

Both **MUST be Merit Rated** to avoid selection of the **Best Value/ Low Bidder** that meets **Threshold-Only** specifications

Approved Requirements meet a Well Prepared Industry!



Common Requirements - IC & Legacy Carbine Enhancements



“**Incremental**” Improvements - The “90% solution”, Available as COTS/NDI, modified COTS. **Significant advantages for the end user!**

- **Reliability:** 4 - 7X, 18K MRBS/F (cold-hammer forged barrels, high reliability mags)
- **Service Life:** 3 – 4X (optimized materials, piece parts, coatings)
- **Improved Accuracy:** 30 - 50% increase/Sub 2 MOA (optimized design/ergonomics, enhanced ammo/projos, improved sights, enhanced training). **Critical with Carbine “Pure Fleeting” and the OEF Long Range war**
- **Increased Terminal/BTB Effects, Effective Range:** Optimized intermediate cartridge (6-7mm x 45/51mm), improved propellants, SOST/TOTM, M855A1, Barnes TSX, other?
- **Safety:** OTB (0 vs. 6 sec. drain time), Increased (60%+) Cook Off (210-240 vs. 120-150 rounds), SBFA (catch live projectiles during blank firing)
- **Improved Sustained Fire Capability:** 540/70 vs. 900, 90 vs. AKM 120/150 (Wanat), IAR 660 rds/1.5 minutes (440 rpm), 60% > 36 rpm spec possible (12/15 M16A2)



Example:

Improved Sustained Fire Capability



Excerpts from 2009 Army Combat Studies Institute, Fort Leavenworth, KS
(available at www.battlefieldtourist.com/content/battle-of-wanat-historical-analysis-rough-draft-release/)

There were three vehicles that could still fire from the COP, the two squad HMMWVs on the northern segment of the perimeter, both armed with Mk 19 40mm automatic grenade launchers, and the Platoon HMMWV with a .50 cal at the CP. The TOW HMMWV was now merrily burning to the ground, and was well and truly out of action. The Marine ETTs also had a single M240 Machine Gun manned by Corporal Jones, described by the paratroopers as “the big Marine with a moustache.” This gun’s presence was fortunate as both the 2nd Platoon’s M240 Machine Guns were located at OP Topside. The insurgents so aggressively pushed their advance that their positions were within the minimum arming range of the 40mm grenades. Additionally, their small arm fire was so devastating that one of the grenade launchers was struck with a bullet through the feed tray, permanently disabling it. The other Mk 19 grenade launcher jammed, which they are prone to do. Thus, the American defenders at the main COP had only a single .50 caliber machine gun, the Marine M240 Medium Machine Gun, and their own small arms to repel the assault. It is to the credit of the Chosen soldiers that they maintained at least fire parity from the COP. To achieve this, the 2nd Platoon soldiers were firing their weapons “cyclic,” on full automatic at the highest possible rates of fire. As a result, numerous soldiers experienced weapons malfunctions, just as Staff Sergeant Phillips had faced at the mortar pit. One young specialist fighting at the COP Kahler later complained, “...I ran through my ammo till my SAW would not work anymore despite the ‘Febreze’ bottle of CLP I dumped into it.”^{elxviii} Another Sergeant described the desperate struggle at the COP when the 2nd Platoon QRF departed to reinforce OP Topside:

System Recommendations

There were repeated and recurring failures of small arms firing at “cyclic” rates of fire (high volume of fire for extended duration) during this engagement. Weapon systems that experienced failures include M-4 rifles, SAW automatic weapons, and MK19 grenade launchers. The failure of weapons at OP Topside degraded the defense of that post at a critical moment in the engagement, and contributed to the penetration of that position by the ACM. Some GWOT and U.S. Army veterans queried by the author have suggested that this could have been caused by improper weapon cleaning. However, numerous Chosen Few NCOs interviewed for this study have been vehemently adamant in stating that weapons were meticulously and regularly cleaned, and rigorously and routinely inspected by the chain of command. Other GWOT veterans consulted have noted that the high rates of fire sustained during the two hour intense engagement phase at Wanat could possibly have contributed to these failures. However, numerous weapons failed relatively early in the engagement (particularly a number of M-4 rifles and at one SAW at the mortar pit), and in any event the maintenance of cyclic rates of fire was critical to restore fire superiority, and to prevent positions (particularly at OP Topside) from being overrun by determined, numerous, and hard pressed insurgent assaults. The U.S. Army Project Manager-Soldier Weapons needs to investigate the reason(s) behind the repeated failures of multiple weapons at sustained cyclic rates of fire, and initiate appropriate measures to address such failures.

The Battle of Wanat
COP Kahler, Afghanistan
13 July 2008

- * 9 US soldiers killed, 27 wounded when their fighting positions were partially overrun
- * Numerous Carbines, SAW's AGL's failed – due to high SRF
- * Sustained Rate of Fire (SRF) Comparison (Rounds/Minute)
 - Carbine = 90
 - AK-47/AKM = 120 - 150
 - Modern COTS Alternatives = >150
(USMC IAR >300)

Thing is we knew of this issue as early as 1990! (AMC tests)



Cpl. Pruitt Rainey's coffin was carried from his funeral in Burlington, N.C. He was one of nine American soldiers killed in a firefight that month in Wanat, Afghanistan.



Common Requirements (cont.) IC & Legacy Carbine Enhancements



- **Weight Reduction:** $\geq 20\%$ (PCAP's, Add-on Rails vs. full RAS, ISM's, Dynamic Flowform Inconel/Cobalt Barrels?)
- **Modularity - User Configurable Caliber, Barrel, Stock Conversion:** SCAR Common Receiver (5.56mm-7.62mm), Rem. ACR/MSR, Beretta ARX-160, HK XM8/USP, SIG516 Gen II, Czech Republic CZ805A, etc.
- **Parts Commonality:** 82% between 5.56mm, 6.8mm and 7.62mm (SCAR)
- **Reduced Maintenance (User, Maintainer):** 72% less cleaning time (any Op Rod system), "Lubeless" finishes
- **Reduced Procurement Costs:** (complete weapons, barrels, piece parts)
- **Reduced Life Cycle Costs:** 45 - 75%
- **Unique Capabilities:** Advanced penetrator technology, "Blind to Barrier" projectiles, LV 40mm ABMS, **fielded/emerging threat capabilities**



COTS Incremental Advances Waiting to be Exploited



Modular, User Configurable Rifle Systems are now available that would allow on-the-fly user reconfiguration to support changing missions, threats for:

- Transition from Iraq to the Long Range War of OEF & the need for long range accuracy & terminal effects
- Improved terminal performance from short-barreled weapons for personal protection, vehicle use
- To meet as of yet unanswered but approved user requirements for:
 - M4-style SDMR's
 - Medium Caliber MURG's
 - Automatic Rifles
 - 7.62x51mm Rifles, SDMR's
 - Personal Defense/Subcompact Weapons

A modular “Lego” system configurable by the user 11



Available Modular Weapons

New since 2009



User Exchangeable (without tools, special tools):

- Barrels (lengths, types)
- Feed Systems
- Stocks (assorted)
- Calibers

Beretta ARX-160
Fully modular w/o tools.
5.56mm, 7.62x39mm, 6.8x43mm. **In service w/ Italian Army.**



Taiwan T97 convertible
from 9mm – 7.62x51mm.
Fielding expected 2012-2013



FN SCAR
“Common Receiver”
5.56mm – 7.62x51mm
In final development.

Remington ACR
Fully modular w/o Tools. 5.56mm, 6.5mm G and 6.8mm, 7.62x39mm. **In production 2010.**



CZ 805 A

MULTICALIBER AUTOMATIC RIFLE
Caliber 5,56x45mm NATO / 7,62x39mm

CZ 805 A
Fully modular w/o tools.
Entering series production. 12



Incremental Advantages Waiting to be Exploited



➤ Safety

- Cook-off \Rightarrow 270 rds.
- Barrel failure \Rightarrow 900 rds.
- OTB Capable (0 seconds)

➤ Reliability \Rightarrow 18,000 MRPF/S

➤ Family of Modular Weapons

- Quick-Change barrels, stocks, trigger groups
- Caliber Convertible
- Convertible Feed System
- Reduced life cycle costs

QC Cold Hammer Forged Barrel

Op Rod Gas System

Ambi charging handle, forward assist

ISM (IR laser, Reflex Sight)

Modular Stock System

SBFA

“Negative” footprint accessory mounting points

High reliability magazine

“Centralized” Ambidextrous Controls

➤ pH \Rightarrow 2 MOA

➤ Terminal Effects (“Lethality”)

- BTB projectiles
- “Medium Caliber” options
- Increased Terminal Effectiveness against unprotected and protected targets

➤ Maintenance

- 72% < operator cleaning
- > 2X bolt service life
- > 3X barrel service life
- 2X receiver service life

➤ System weight

- \leq 2.8 kg (6.1 lbs.)
- LW ammunition

Same Advantages for a Bullpup Configuration

➤ Safety

- Cook-off \Rightarrow 270 rds.
- Barrel failure \Rightarrow 900 rds.
- OTB Capable (0 seconds)

➤ Reliability \Rightarrow 18,000 MRPF/S

➤ Family of Modular Weapons

- Barrels
- Stocks, trigger groups
- Calibers
- Feed systems
- Reduced life cycle costs

➤ System Weight

- \leq 3.27 kg (7.2 lbs.) (TAR-21)
- LW ammunition

➤ pH = 2-3 MOA

➤ Lethality

- BTB projectiles
- Medium caliber option
- Increased MV (NLT 11%)
- Increased ME

➤ Maintenance

- 72% less operator cleaning
- > 2X bolt service life
- > 3X barrel service life
- 2X receiver service life

Sadly the US is not seeking a Modular Carbine or Family of Weapons



Part I Summary



If allowed to run its full course, important and available incremental improvements will be realized

- **US IC and Carbine Upgrade efforts will provide welcome data to 8+ similar NATO programs**
- **The US should be seeking a modular user reconfigurable family of weapons to meet assorted user needs**
- **Strong Congressional support exists and is engaged**
- **This same assessment process must be applied to other aged legacy weapon categories (handgun, rifle, SAW/LMG, AGL)**



Part II

Joint US/NATO Programs – What if?



What if we collaborated on the joint, shared “team” development, testing, fielding, support, PIP’s of a NATO common “suite” of small arms and enhanced ammunition for the benefit of the joint international war fighters?

How can we?

Who should be the Lead?

What are the Obstacles?

Who pays for it?



US Marine Sergeant and British Army Major
in Helmand Province Afghanistan

**If it can be imagined,
it can be accomplished**

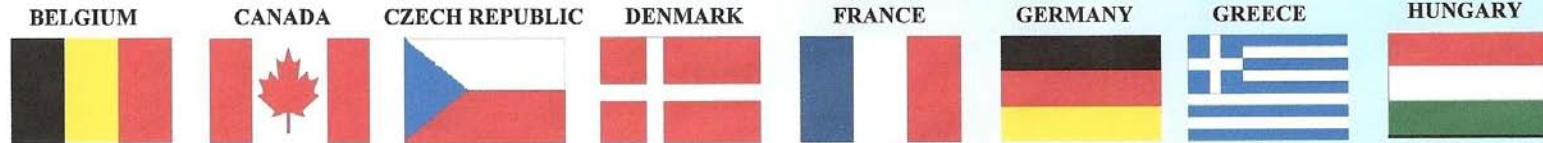
The United States

All can be breached

We share the costs

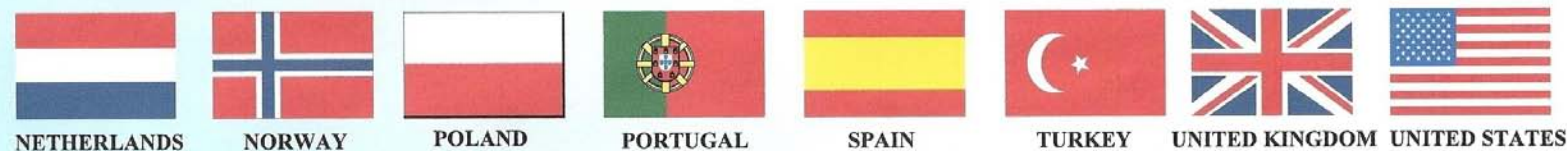


NATO Overview



28 Independent Member Countries: @ 3.8M Personnel

- **18 Countries “Seeking Membership”: @ 1.7M Personnel**
- **Total Personnel: @ 5.6M Armed Personnel**
- *That is some serious buying power!*
- **Currently using 19 + 3 different rifles/carbines and 15 + 2 LMG’s/LSW’s in 2 + 4 calibers.**
- *Why?* For the most part we fight the same enemy, in the same locations and in the same manner.





NATO Small Arms, Ammunition Replacement Programs - 2010-2022



Weapon Type	Programs (Approximate Start Dates)	Value (USD)	Comments (Partial List only!)
Handguns (1) Estimates based on \$400 unit cost x active personnel	US M.H.S. (2010) UK (2010-2012) Canada (2012-2015) (3)	208M 8M	(3) Part of 1B Canadian dollar "SARP 2" (Small Arms Replacement Program - 2012-2022)
Rifles/Carbines (2) Estimates based on \$1K unit cost x active personnel	US M4 Upgrade, I.C. (2012) UK (2020) Canada (2018-2020) (3) Czech Republic (ongoing) (4) France Italy (ongoing) (4) Romania (2010-2013) Sweden Turkey (ongoing)	1B 240M 67M 8M/57M 259M 230M 90M 34M 514M 2.49B	Also non-NATO countries of Australia, India (2-3M/\$1.5-2B!), Norway (ongoing), Switzerland (4) User-convertible caliber, barrels, etc.
Cartridge/Caliber	US (I.C. Competition) UK (ongoing studies) Canada (under consideration)		5.56mm, 7.62mm NATO PIP's (M855A1/SOST), UK CTA, US LSAT, "Medium 17 Caliber"



NATO Trails - Last Time We Partied Together



Caliber/Cartridge

- 1949 to 1953: 7.62x51mm NATO Standardization
- 1977 to 1980: Tested 5.56mm, 4.85mm, 4.7mm Caseless
SS109 selected as the 2nd NATO Cartridge

●Rifles

- 1977 to 1980: 6 tested. No NATO Standard Rifle selected.
There are only “NATO Nominated” rifles.

●Other Weapon Categories – NATO PDW Tests 2000-2003

**Combine the talents, resources, facilities, funding,
technology, experience and economies of scale
for the benefit of the war fighters of participating countries
at a time of shrinking defense budgets throughout NATO**



NATO Trails - Last Time We Partied Together (cont.)



It CAN be done!

The Warsaw Pact/Communists did it (twice)!
(7.62x39mm AK-47/AKM, 5.45x39mm AK-74)

- **NATO/EDA “Common Module Program”**
 - **9 NATO countries participating** - Austria, Finland, France, Germany, Italy, Portugal, Romania, Spain, Sweden
 - **7 subsystems to include weapons/sensors integration, C4I, power supply, training, vehicle integration, survivability and sustainability**
 - **Schedule:**
 - * **2010 Common Staff Requirement to Industry**
 - * **2013 to 2014 Technology Demonstration**
 - * **2015 – Initial Operating Capability**
 - **Jointly Funded by National Defense Budgets**



Benefits



Maximized System Performance for all Joint NATO War Fighters (weapon, sights, ammo terminal effects, MER)

- Leverage appreciable incremental advancements developed since @ 1995

- **Access to a true “Optimized” Intermediate Assault Rifle, LSW/LMG Cartridge for the first time in history!**
- **True NATO Interoperability and Interchangeability (weapons, ammo, accessories, sights, parts, tools)**
- **Common “Manual of Arms”, Training, Documentation**
- **Universal/Worldwide User Access to Spares, Tools, Repair Facilities, Accessories, Compatible Ammo**



Benefits (cont.)



- **Friend versus Foe ID – Reduced Fratricide**
(Example: MK16/17 outline ID'ing US SOF operators)
- **Reduction of Threat Weapons Sales/Proliferation**
(N. Korea, PRC, Iran – 100K/\$8.3M AK's to India in 1995)
- **Wider Range of Technical Solutions and Materials available to all during development**
(Examples: Dynamic Flowform barrels, LSAT polymer CTA ammo, BTB projectiles [SOST], special coatings, modular architecture)
- **Access to Non-NATO Technologies**
(Novel mechanisms e.g. AN-94, exposed tip AP & CPT ammo)



Cost Benefits

Do something for the beleaguered Taxpayers!



- **Economies of Scale/Increased Price Competition**
 - Reduced Unit Costs (weapons, ammo, parts, sights, accessories, tools/gauges, etc.) **Slides 27 & 28**
- **Shared/Reduced Production Tooling Costs**
- **Benefits of common PIP's throughout NATO fleet versus new and complete replacement programs (with a true modular/user-convertible weapons system)**
- **Industry focus on 1 or 2 RFP's versus 20 or 30 in various countries, languages, currencies and with radically different, non-compatible requirements**



Motivated by Money? (or the lack thereof?)



February 8, 2010

www.defensenews.com

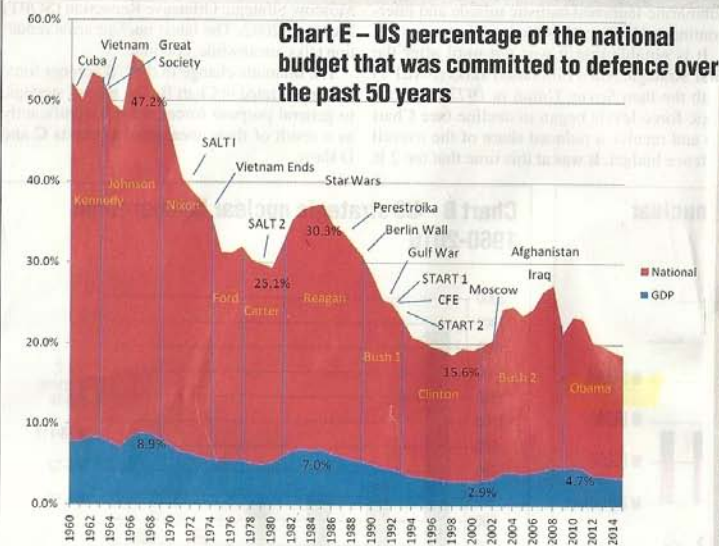
Pentagon Dodges Budget Bullet

6 DefenseNews March 15, 2010 ★

www.defensenews.com

WORLD NEWS

Budget Cuts Affecting Canadian Defense Programs



Sources: DGDP and national budget data derived from the Department of Defense and the President's FY2011 Budget Submission. Author Ron Hertenstein: 136938

22 DefenseNews April 19, 2010

EUROPE

Turkey, Greece Pledge Defense Cuts; Doubts Remain

Spending cuts threaten Austrian projects

Defence budget cuts threaten Czech assault rifle

Cuts to the defence budget may force the Czech Ministry of Defence (MoD) to postpone or cancel a programme to select a new standard-issue assault rifle for the Army of the Czech Republic (ACR).

It was expected that the MoD would announce the selection of a new standard-issue family of assault rifles at the beginning of 2010. Czech small arms maker Ceska zbrojovka Uhersky brod unveiled the new rifle, the CZ S 805, at the IDET 2009 Defence exhibition in Prague in May.

The MoD expect the defence budget (USD1.3 billion) to be cut by 10% in 2010. "Further developments on the proposed cuts are being discussed with the Ministry of Finance."

10 • 31 March 2010 • JDW • jdw.janes.com

THE AMERICAS

US mulls future balance as budgets shrink

INTERNATIONAL DEFENCE DIGEST

Economic downturn signals a change of pace for SMPs

And what often gets cut first?



Motivated by Money? (or the lack thereof?) (cont.)



- **“NATO already faces shortfalls of hundreds of millions of Euros”**
– US Defense Secretary Robert Gates (February 2010)
- **Canadian PM Harper plans to cut 2.5 billion Canadian dollars (\$2.4B USD) in defense spending between 2012 and 2015**
- **Spain’s 2010 budget of around EUR 7.35B (10B USD) is EUR 489.8M (6.2%) below the figure for 2009 and is set to fall an additional EUR 141.1M.**
- **“On the Pentagon’s current plan, defense spending is set to fall from 4 percent now to 3.2 percent of GDP in 2015 and 2.6 percent of GDP in 2028”** – Congressional Budget Office
- **French and German soldier modernization programs are seeing cuts of up to 50% in funding since 2009.**
- **In 2009, China’s defense budget rose by 14.9% compared with 2008 & have posted dbl digit increases every year since 1989.**

Can we afford NOT to share available resources?



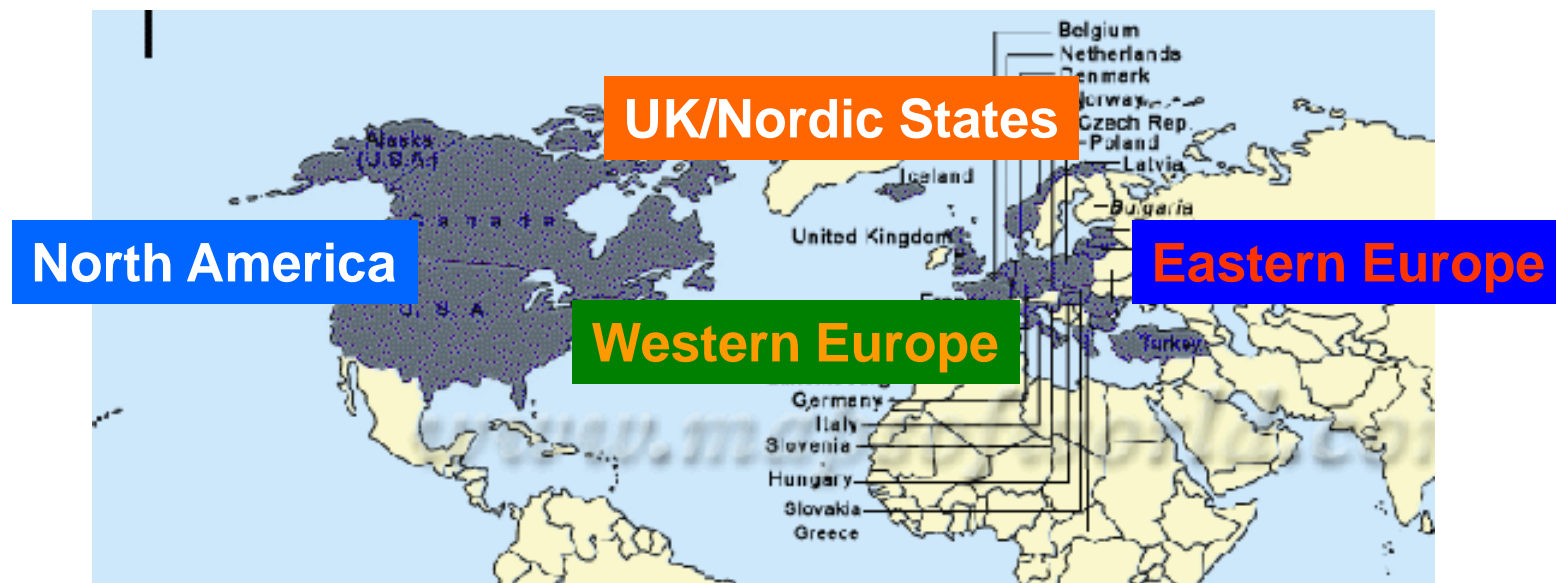
Production Sites



Multiple/Joint Production Teams/Locations (Industry, Arsenal)
Each Licensed by NATO/Design Holder to produce and test the weapons and ammunition in accordance with strict NATO specifications (AC/225)

Multiple Contract Awards for a handful of Like Weapons increases Production Efficiency and Output

Work with NATO Test Centers (2 Regional, 12 National)





Sample NATO Modular Weapon Contract Composition/CLINS



CLIN/Item Description	Caliber	Barrel (OL/Type)	Comments
1. Carbine, Conventional , cpl.	5.56mm	14.5"/Standard	One
2. Carbine, Conventional , cpl.	7.62mm	16.0"/Standard	Common
3. Carbine, Conventional , cpl.	OC ⁽¹⁾	15.0"/Standard	Receiver?
4. Carbine, Bullpup , cpl.	5.56mm	18.5"/Standard	One
5. Carbine, Bullpup , cpl.	7.62mm	20.0"/Standard	Common
6. Carbine, Bullpup , cpl.	OC ⁽¹⁾	19.0"/Standard	Receiver?
1.A.- 6.A. Barrel Assemblies , cpl.	All	CQB, Carbine, Rifle, SDM, AR	Operator install-able w/o tools/ special tools
1.B.- 6.B Magazines, cpl.	All	10, 20/30, Hi Capacity Magazine	
1.C.- 6.C. Accessories	All	Grenade Launcher, Sound Suppressor, Bayonet, Sights, Slings, etc.	
1.D- 6.D Kits, Caliber Conversion	All	Includes bolt, barrel, magazine	
1.E.- 6.E Spare Parts	All		
1.F.- 6.F Tools, Gauges	All	To include Manuals	

⁽¹⁾ **O**ptimized **C**artridge (Intermediate Caliber) OL - Overall Length (in.) Cpl. - Complete



Cost Benefits

Economies of Scale/Increased Price Competition

- **Assault Rifles/Carbines only.** Does not consider spare mags, parts, tools/ gauges, sights, accessories *OR* shared development, testing, logistical support, documentation, tooling costs, etc.
- **Assumes all Active Duty personnel are assigned a rifle/carbine.**

Qty	Unit Price (USD)	Total Procurement Cost (USD)	Dis-count (%)	Cost Savings (USD)	Supplemental Purchases Possible (Qty)	Comments “Free” guns for: NATO Member Seeking Membership
100K	1,000	100M	0	0	0	Iceland (0)
250K	1,000	250M	1	2.5M	2,500	Switzerland
500K	1,000	500M	2	10M	10,000	Albania, Ireland
1M	1,000	1B	4	40M	40,000	Belgium, Bulgaria, Croatia/Denmark, Finland/Moldova, Uzbekistan, Portugal
<u>1.7M</u> ⁽³⁾	<u>1,000</u>	<u>1.7B</u>	<u>5</u>	<u>85M</u>	<u>85,000</u>	<u>(3) Potential Future NATO Membership.</u> Belarus, Romania, Netherlands/ Luxemburg, Lithuania/ Latvia, Slovenia/ Switzerland ²⁷



Cost Benefits (cont.)

Economies of Scale/Increased Price Competition

Qty	Unit Price (USD)	Total Procurement Cost (USD)	Discount (%)	Cost Savings (USD)	Supplemental Purchases Possible (Qty)	Comments "Free" guns for:
2M	1,000	2B	8	160M	160,000	NATO Member Seeking Membership Canada/Poland, Spain
3M	1,000	3B	12	360M	360,000	1/4 US Army + US Navy, Germany/Czech Rep./ Georgia, France/ Poland, UK/Poland/ Slovakia
<u>3.9M</u> ⁽⁴⁾	<u>1,000</u>	<u>3.9B</u>	<u>15</u>	<u>585M</u>	<u>585,000</u>	<u>(4) Current NATO Members.</u> Entire US Army + Polish military. Total population of Wash. DC or the state of Wyoming. Turkey/Sweden/Turkmenistan/Tajikistan/ Estonia
<u>5.6M</u> ⁽⁵⁾	<u>1,000</u>	<u>5.6B</u>	<u>20</u>	<u>1.12B</u>	<u>1,120,000</u>	<u>(5) Current/Future NATO Members</u> US Army/Navy/USAF + 77% of USMC, Russia/Venezuela, Entire populations of East Timor, Las Vegas/Portland or Kaufman Co. Texas!



Part II Summary



This opportunity is fleeting – should begin ASAP using common requirements/specs (AC/225)

- **The United States should take the lead with NATO LCG-1 SG/1. Most agree and history has shown that NATO is unlikely to proceed unless America is on board, especially on new caliber selection**
- **Greater order potential (quantities purchased) drives innovation, industry IR&D and thus reduces unit costs while increasing performance for the benefit of all involved**
- **State-of-the-science weapons/ammunition available from a global inventory for all NATO small arms end users**

If not through NATO, how?



Part III

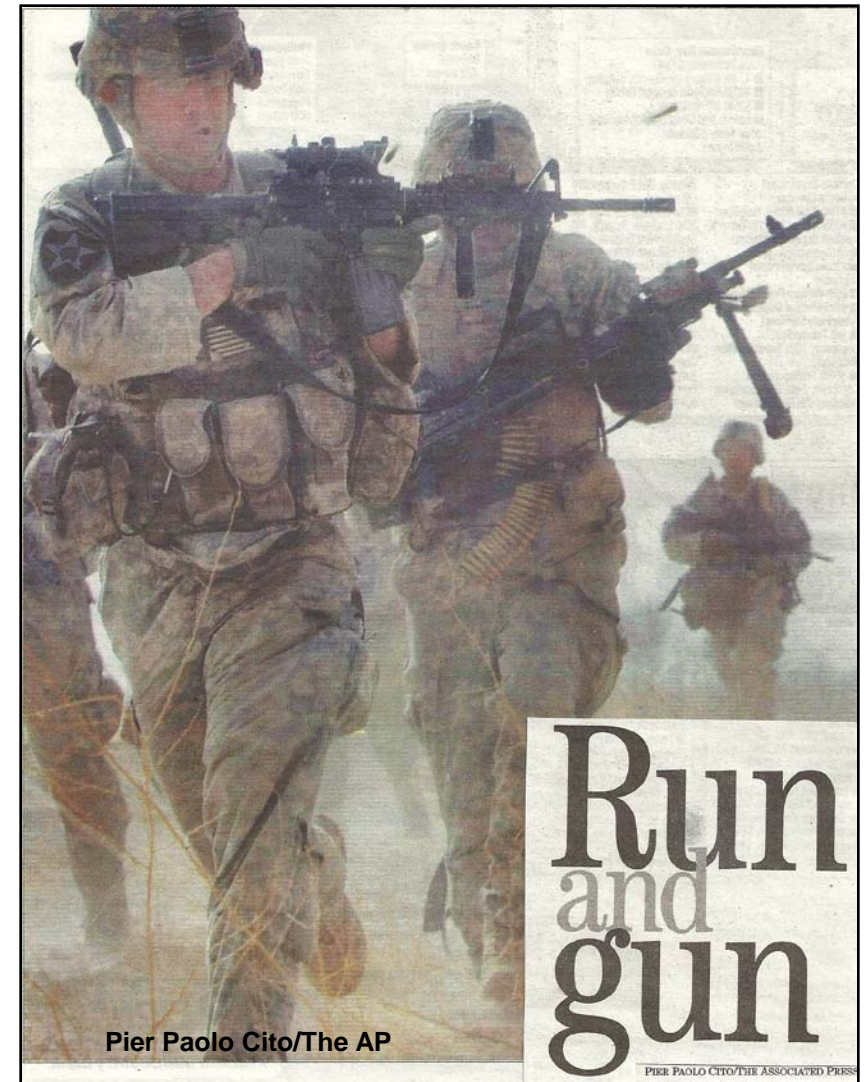
The USAAAP



User Small Arms and Ammunition Advisory Panel (USAAAP) "U Sap"

Giving the experienced small arms end users/ground combatants a seat at the decision making table.

**A say in what they fight with!
(and sometimes die with)**





The “Lost” User Requirements



Too often valid and/or urgent AND UNIT CG APPROVED

user requirements never survive “the process”

Army Infantry Divisions and XM8 for OIF

M4-style DM Carbine – 82nd ABN DIV

CASCOM Convoys, 10th SFG(A) – 10” 5.56mm Uppers

5th SFG(A) – PMOD, 6.8mm MURG, .45 ACP Pistols

.300 WINMAG M24’s – 20+ years later

New Handgun (4 false starts)

QCB/Fixed Headspace M2HB’s – 25+ years later

Multi-cam versus UCP (ACU) – known deficient in

2005. A \$5B+ mistake the USAAAP would not have made.



The USAAAP model already exists....and works well



- **Select US units have replaced 9/10 US standard weapons with incrementally superior COTS weapons by involving end users in the process - *the properly executed “90% solution”***
 - In near term (< 2 years)
 - Few if any R&D dollars spent – low risk to vendors
 - Advanced and unique capabilities fielded – **ALL COTS!**
 - > FN Minimi before M249
 - > MAG58 before M240
 - > MK19 in Navy Spec War in 1960's
 - > .50 caliber Sniper Weapons before M107
 - > SR-25 before M110
 - > AG-416 before M320
 - > .40 S&W caliber handguns years before JCP/CP/MHS
 - > PDW caliber weapons and ammo
 - > HK416/417, GMG, SCAR/EGLM, others
 - > .300 WINMAG sniper rifles before M24 PIP
 - > .338 caliber and Modular Sniper Rifles before the PSR program
 - > Multi-shot 40x46mm Grenade Launchers before the US Army, USMC (M32)
 - > Also Uniforms, visual augmentation, protective gear, etc.
- **Multi-Cam combat uniforms before UCP/ACU's**

Many fielded with limited US Govt R&D spending, if any!



The USAAAP could have prevented a \$5,000,000,000+ mistake

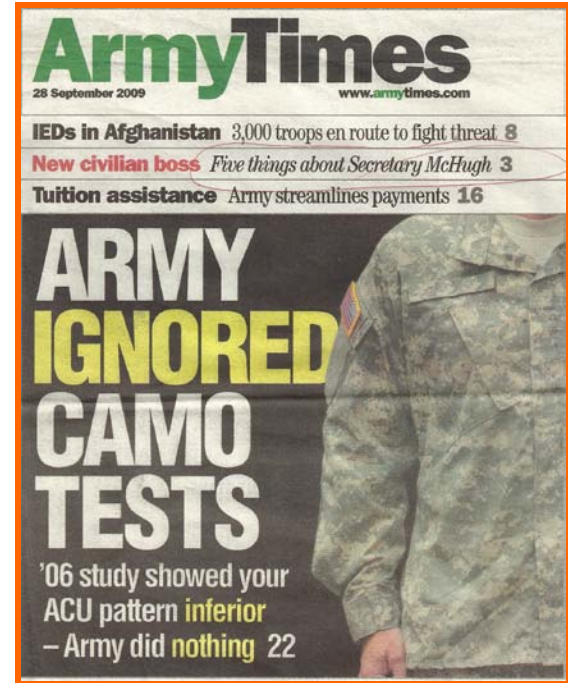


We would not have invested @ \$5B on substandard Army ACU (UCP) uniforms and UCP camo pattern equipment if we had followed the lead of these units.

- Model small arms acquisition that ***can and should be replicated for all US military war fighters***
 - User driven, tested, selected
 - Realistic requirements!
 - Pushing the envelope of COTS
 - Intelligent use of Limited Combat Evals
 - Less cost to the tax payer
 - Enhanced warfighter confidence, safety, survivability, enemy fear (respect) of our ground combatants

The 2009 Natick report raises questions as to why PEO Soldier overlooked the Marine desert digital, MultiCam and Desert Brush patterns in 2004 and chose the UCP for its Army Combat Uniform, a decision that resulted in \$5 billion in uniform and equipment costs.

report, the first Natick study, called "Computerized Visual Camouflage Evaluation," conducted between November 2005 and July 2006, found that "MultiCam performed significantly better than the UCP in most conditions."





Camo Uniform of The Week?



And why does each service need a different camouflage pattern/uniform?

How does that make any sense at all?



Pick the best patterns (desert, woodland, etc.), tag them by service and issue them to all – and save money through economies of scale! ³⁴



The USAAAP

(User Small Arms and Ammunition Advisory Panel)

- **Real Users**, Select US Unit representation
- Proven incremental fielding representation
- Self-vetting - No PEO's, PM', AO's, other
- Report to both Congressional ASC's, SECDEF
- Directs, approves actions of system on:
 - Current Product Performance
 - New item assessment, testing
 - Major Contract Awards and Extensions
 - R&D Program Funding (current and new)

The system truly working for the real end user! 35



The USAAAP (cont.)

(User Small Arms and Ammunition Advisory Panel)

● Purpose

- To address the pronounced absence of the front line combat small arms end user on issues and decisions concerning US DoD small arms and ammunition performance, development, selection, assessment, fielding, sustainment and training to insure the US war fighter always has and is properly trained on the very best small arms, ammunition and ancillary equipment available to the United States.

● Description

- The USAAAP will be comprised of no more than twenty five (25) select current individual end users and subject matter experts from the US DoD and industry small arms and ammunition communities. Representative slots on the USAAAP will be allocated as follows:

- **DoD, OGA Sub-Panel ⁽¹⁾ (Total 14)**

- | | | |
|----------------------------------|--------------------|----------|
| • 2 - US Army (Infantry) | 2 - USSOCOM | 2 - JSOC |
| • 1 - US Air Force | 1 - US Coast Guard | 1 - NGIC |
| • 2 - US Marine Corps (Infantry) | 1 - US Navy | 1 - CIA |
| • 1 - US Army AWG | | |

- **SME Sub-Panel (Total 11)**

- | | |
|-----------------------------|----------------------------------|
| • 1 - Test community | 3 - Incremental Fielding Experts |
| • 1 - Logistics community | 3 - Small Arms Experts |
| • 1 - Contracting community | 2 - Other (as required) |

⁽¹⁾ Specifically members of the DoD Panel of the USAAAP will be or represent the actual small arms end user units/personnel and will not be current General Officers, PEO's, Acquisition Officers, Proponent Representatives, Program/Project Managers, or persons currently occupying positions within the current US DoD small arms acquisition infrastructure. USAAAP members will not be employed by the small arms, ammunition or ancillary industry in any capacity.



USAAAP Skill Identifiers

Skill Identifiers (background, panel qualifications)

- A – Army Acquisition History/Dysfunction
- CA – Caliber, Wound Ballistics
- C – Contracting (contracts, cost analysis)
- E – Expert (Subject Matter)
- EN – Engineering (design, materials, technology)
- G – Gunsmith
- IF – Incremental Fielding (recent success)
- IN – Inside Knowledge
- L – Logistics
- LG – Legal (Hague, Geneva, ICRC compliance)
- M – Media Representative (NDA required!)
- P – Political
- PM – Program Management
- PR – Production
- PS – Performance Specs
- U – User (present, past)
- R – RDT&E
- S – Sensitive Organization (*protect information!*)
- T – Testing
- TH – Threat (threat capabilities, countering the threat)
- TR - Training



The USAAAP (cont.)

(User Small Arms and Ammunition Advisory Panel)

- Reporting
 - **The USAAAP will report jointly and directly to the SASC/HASC and OUSD for AT&L or DoD Joint Staff.**
- Chairmanship
 - **Chairmanship will be joint with one Co-Chairman from each of the two Sub-Panels.**
- Selection
 - **Selection for Chairmanship and participation in the USAAAP will be determined by recommendations and approvals from the panel members by majority vote.**
- Duties

General Duties

- **The USAAAP will be responsible for reviewing, directing, coordinating and approving all small arms and small arms ammunition development (up to and including 40x53mm and .50 BMG caliber) and acquisition activities within the US DoD annually based specifically upon the expressed needs of the small arms end users each member represents.**



The USAAAP (cont.)

(User Small Arms and Ammunition Advisory Panel)

- Specific Duties

- Receive and collect end user requirements documents for small arms, ammunition and ancillary equipment and training
- Coordinate an annual end user summit to collect user feedback on existing equipment and training, threat capabilities, and to discuss new and urgent requirements
- Coordinate and receive semi-annual threat briefings and updates
- Review and direct small arms development and fielding
- Review and direct small arms ammunition development and fielding
- Review and direct small arms ancillary equipment development and fielding
- Review and direct small arms user training development, implementation
- Review, modify and approve new requirement documents (from proponents) for small arms, ammunition and ancillary equipment
- Review, modify and approve all Performance Specifications for small arms, ammunition and ancillary equipment
- Review, modify and approve new R&D initiatives for small arms and ammunition and ancillary equipment
- Review, modify and approve new contract initiatives (awards, delivery orders, recompetes, extensions, major modifications, etc.)
- Review, modify and approve solicitations for small arms and ammunition and ancillary equipment
- Coordinate joint efforts, requirements within the US DoD community
- Brief and provide direction to the OUSD for AT&L, the DoD Joint Staff, SASC/HASC and the ammunition support infrastructure on USAAAP decisions, directives



The USAAAP (cont.)

(User Small Arms and Ammunition Advisory Panel)

●Activities

▪Meet Quarterly, or as required to review specific duties listed above.

▪Meet Annually;

1. To assess the current performance of all legacy (existing) US DoD small arms and ammunition and ancillary equipment.
 2. To direct the US DoD Small Arms Support Infrastructure to assess select new “**Incrementally Superior**” COTS/near COTS candidate small arms and ammunition and ancillary equipment items that offer improved performance and capabilities over existing (legacy) items **for fielding 1-3 years out.**
- Every three (3) years** meet to review and direct the US DoD Small Arms Support Infrastructure on “**Future Programs**” for small arms and ammunition and ancillary equipment items that offer improved performance and capabilities over existing (legacy) items **for fielding 3-5 years out.**
- Every five (5) years** meet to review and direct the US DoD Small Arms Support Infrastructure on “**R&D Programs**” for small arms and ammunition and ancillary equipment items that offer improved performance and capabilities over existing (legacy) items **for fielding 5-10 years out.**

●Funding

Funding to support the activities of the USAAAP, to include US Govt personnel travel and SME contractor labor and travel expenses, and full time administrative support will come from the OUSD for AT&L and will be incorporated into the permanent DoD budget.

Notes:

1. No contract will run longer than 5 years without being recompeted.
2. Contract recompetes will occur only with updated Performance Specifications and Purchase Descriptions based on USAAAP review.
3. No Small Arms or Small Arms Ammunition R&D program will run longer than 10 years.



3-year Incremental Fielding Cycle



On a three-year cycle the USAAAP

- **Reviews (every 3rd year)**
 - USG and COTS System Performance and Specifications, PIP's, Threats, etc.
 - R&D Programs (current, new)
- **Tests (every 4th year)**
 - Solicits Industry for and tests incrementally superior systems
- **Contract Award (every 5th year) NTE 6 years**



Part III Summary



The proposed USAAAP will provide the means to give the real small arms end users a “seat at the decision making table” on the development and selection of the very small arms and ammunition they fight and die with!

- **Will provide Top Level visibility on the state of US small arms and ammunition from the vantage point of the end users and SME’s.**
- **Focus attention were needed in real time**
- **Expedite Incremental Fielding of Urgently needed items and prevent “distractions” and waste**
- **Reduce disjointed, parallel and sometimes unnecessary efforts**
- **Help better spend limited funds**
- **Exploit the talents of the existing support structure**

Form and empower the USAAAP Now!



Parting Thoughts



Decreasing US and NATO defense budgets and increasingly challenging global priorities dictate a need to combine efforts, talents, funding and resources in a truly joint environment.

- **Direct end user involvement, visibility and oversight will make better use of available resources and deliver state-of-the-science materials more rapidly, more often and more affordably than the current top-down driven process.**
- **The existing support system truly working to address the real time needs of the ground combatant.**
- **Better equipment saves lives and wins battles!**



Dedicated to the memory of
US Army Specialist Stephen Lee Mace
3 SQD, 61 CAV REG (4BCT), 4ID
from Purcellville, Virginia



A fallen soldier returns home. Leesburg Virginia airport



Killed in action
on October 3rd,
2008 at Combat
Outpost Keating, Nuristan province Afghanistan

In Memoriam



***Thank you for your time
and attention!***

Contact Information

Jim Schatz

Email: schtred@aol.com