U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT, & ENGINEERING CENTER (ARDEC)

Malcolm Baldrige National Quality Award 2007 Award Recipient

ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER
PICATINNY ARSENAL, NJ

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

Dr. Barton Halpern

13919 - Joint Service Small Arms Program Office Technical Base Integration into NATO LCG-1 Weapons and Sensors Roadmap

17 May 2012

Joint Armaments Conference, Exhibition and Firing Demonstration

Bottom Line up Front

Our #1 initiative is the successful transition of technology for small arms related technology to PM Programs of Record

- Achieve this through a balanced portfolio strategy
- Focused on Capability Gaps as identified in the Joint Small Arms Capability Assessment and Army Small Arms Capability Based Analysis
- Focused on identified requirements from through the Joint Service Small Arms Master Plan
- Focused on leveraging :
  - Technology
  - Academia
  - Industry
  - Weapon concepts feasible for further research and development
  - International Development Programs

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JSSAP Small Arms Systems R&D Strategy

Futures Conferences

Small Arms Capability Based Assessments

Documented Requirements

TRADOC Gaps Warfighter Outcomes

Technology Information Exchanges

NSAC
INDUSTRY
ACADEME
GOVERNMENT

National Small Arms Center – Industry Push

JSSAST Technology Shortfalls

NATO
OTAN

International Small Arms Activities

Joint Service Small Arms Master Plan

- Intensive management of the DoD small arms tech base
- Harmonization of requirements

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The NATO Requirement for Dismounted Soldier

- Rapid NATO Response Force
- Multinational Task Organization
- Technology Advanced
- Deployable with in 5 days
- Sustainable for 30 days
- Trained and equipped to common standards

NATO LCG-1 Ongoing and Future Programs

	Rifle upgrade	CCO	GL FCS	Handgun	Suppressor	LAM	Magazine
BEL	x	x		x			
CAN	x	x	x	x	x	x	x
CZE	x						x
DEU	x	x	x			x	
DNK				x	x		
ESP			x	x	x		
EST	x	x		x	x	x	
GBR	x	x	x	x		x	x
HUN	x						
ITA			x				
NLD	x	x			x		x
NOR	x	x	x	x	x	x	x
SWE	x	x	x		x	x	x
USA	x	x	x	x	x		
Σ	11	9	8	8	8	6	6

CCO = Close Combat Optics
GL FCS = Grenade Launcher Fire Control System
LAM = Laser Aiming Module

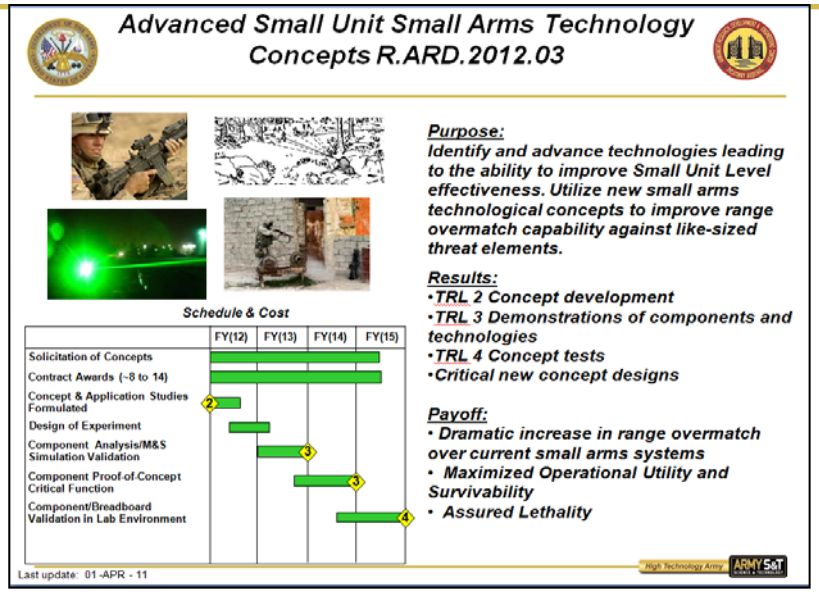
JSSAP Technical Base Integration into LCG-1 Roadmap

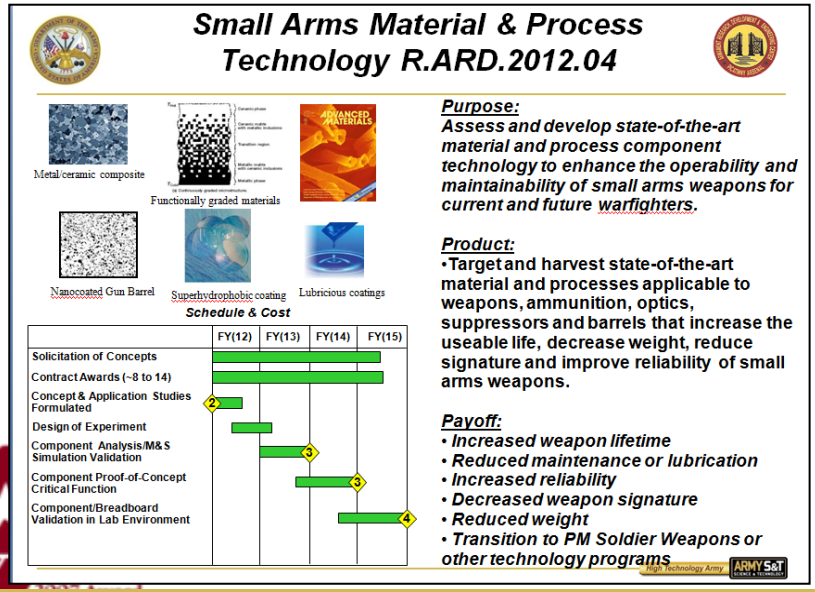
- Supporting the development of NATO Staff Requirements:
  - Defining for Industry new NATO Staff Requirements for: Handgun, PDW, Grenade Launcher, Assault Rifle and a Machine Gun
    - Harmonized Requirements
    - Common Acquisition across NATO
    - Interoperability for the Soldier
    - Maximizing Industry IR&D

JSSAP Technical Base Integration into NATO LCG-1 Roadmap

- Supporting the development of NATO STANAG for the "Powered Rail":
  - Defining for Industry a NATO requirement for the powered interface to the NATO Accessory Rail (STANAG 4694)
    - Voltage range
    - Max current
    - Data protocol
    - Typical grabber design
    - Spring pressure
    - Sealing / coating

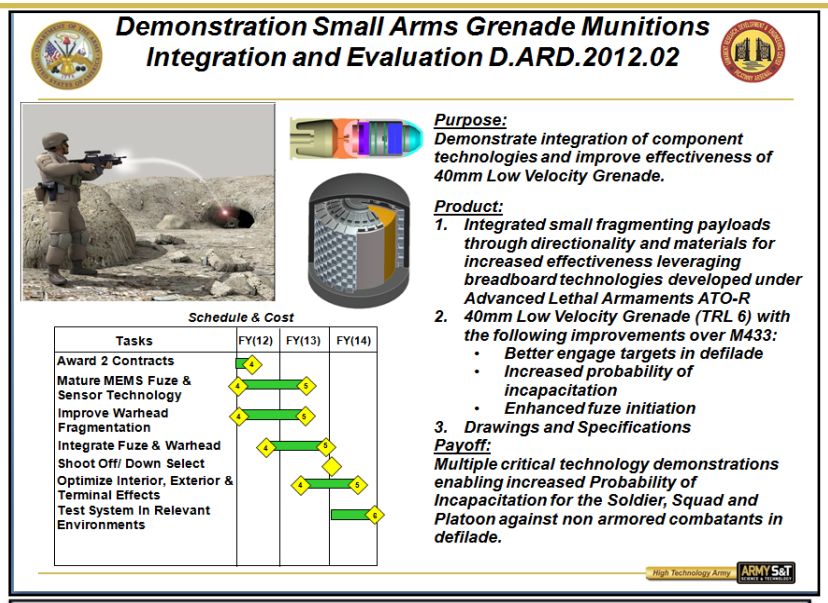
JSSAP Technical Base Integration into LCG-1 Roadmap





- Leveraging S&T Investments:
  1. Advanced Small Unit Small Arms Technology (ASUSAT) Concepts Research Program
     - Purpose: Identify and advance technologies leading to the ability to improve Small Unit Level effectiveness. Utilize new small arms technological concepts to improve range overmatch capability against like-sized threat elements.
  2. Small Arms Material Process Technology (SAM&PT) Research Program
     - Purpose: Assess and develop state-of-the-art material and process component technology to enhance the operability and maintainability of small arms weapons for current and future warfighters.

JSSAP Technical Base Integration into LCG-1 Roadmap



- Leveraging S&T Investments:

3. Small Arms Grenade Munitions (SAGM) Integration and Evaluation Demonstration Program

   Purpose: Demonstrate integration of component technologies and improve effectiveness of 40mm Low Velocity Grenade.

4. Small Arms Weapons and Fire Control Integration (SAW&FC) Demonstration Program

   Purpose: To demonstrate the integration of advanced fire control component technology which improves capability to determine range, track moving targets, and increase probability of hit. Components will be demonstrated with a day electro-optic sensor on relevant current KE weapons.

JSSAP Investment into Common Capability

- Supporting the mission of NATO
- Investigating interoperability between the different weapons attachments
- Standardization of connecting and power sources
- Ensuring our Warfighter has the Capability they need