

Special Operations Forces



Industry Conference

Mr. Patrick Carley

Program Manager

Lethality Systems

**Ground Combatant Systems – Lethality,
Visual Augmentation, Weapons, Fire Support**

SOF WARRIOR



Lethality Systems Mission

Develop, procure and sustain Weapon, Visual Augmentation, and Fire Support capabilities for specific missions when Service solutions do not meet SOF requirements

SOF Unique Attributes/Focus:

- **VAS: REGAIN THE NIGHT** from Sophisticated Threats
- **Weapons: Improve suppressors (flash, sound & glint) for REDUCED SIGNATURE** to obtain/maintain **LOW VISIBILITY**
- **Fire Support Systems: REDUCE** the weight of Pointers, Markers, Target Location Devices. Develop more **PRECISE** and **ACCURATE** munitions systems
- **Ammunition: COVERTNESS** through Flash-less powder, subsonic munitions; accurate across all temperatures



SOF WARRIOR



Lethality Systems Portfolio



AN/PVS-15 Night Vision Goggle w/ Clip-on Thermal Imager

- **Visual Augmentation Systems**
 - Helmet Mounted: PVS-15A, Clip-On Thermal Imager, Digital Fusion Goggles, Panoramic Goggles
 - Weapon Mounted: Clip-On Night Vision Devices, Direct Optic Magnified Sights, Red Dot Aiming Devices
 - Handheld: Thermal Imagers, Laser Markers



Handheld Laser Marker



SOF Laser Acquisition Marker



MK13 Sniper Rifle w/ INOD

- **Weapons and Accessories**
 - Combat Assault Rifles
 - Machine Guns
 - Sniper Rifles
 - Laser Pointers, Illuminators, and Suppressors



Combat Assault Rifle



Multi-Purpose Anti-Armor Anti-Personnel Weapon System

- **Ammunition, Demolitions and Breaching**
 - Small Caliber Ammunition
 - Shoulder Fired Systems
 - Aviation Ammunition
 - Demolition kit



AC-130 ammo



Advanced Lightweight Grenade Launcher

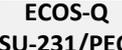


SOF WARRIOR



Lethality – Sensors “Today”

SOF-Peculiar
Service Transition/Common

	Hand-Held Imagers	Head Mounted “Hands Free”	Weapon Mounted Night	Weapon Mounted Day	Lasers & Fire Support
SF/ODA					
RANGERS	AN/PAS-23 Short Range	AN/PVS-15A Night Vision Goggles		3X Magnifier 	LA-10/U Handheld Laser Marker 
AFSOC JTAC/CC			AN/PVS-26 AN/PVS-30 I² Sniper Sight	AN/PAS-31 	AN/PEQ-1C Laser Acqn Marker 
SEALS	AN/PAS-26 Medium Range	Clip-On Thermal Imager (Accessory)		AN/PVS-24 	LA-5A/PEQ 
MARSOC				ECOS-Q SU-231A 	LA-11/PEQ 
	AN/PAS-24 Long Range			ECOS-Q SU-231/PEQ 	
				M1 Leupold Nightforce 	
			TaNS 	MRS 	SPOTR SU-267/P 



SOF WARRIOR



Sensor Initiatives

(FY) Transition Timeframe

S&T to Program



Clip-On SWIR Imager (COSI)



Clip-On SWIR Illuminator

Clip-On SWIR Sniper Sight (COS3)



Micro-SWIR

SWIR Technology Development (FY13-14)



Wind Sensing for Improved Ballistic Solns

Rapid Adaptive Zoom for Automatic



Adaptive Lens

Adv. Weapons Sights (FY13-14)

Hi-Def Micro Display & Integration Concepts



Adv. Digital Multi-Spectral NVGs

Digital Fusion Goggle Technology Development (FY13-14)

Combat Eval to All SOF



Mark VII LRF



IZLID



HHI-P



AN/PVS-22 (INOD Blk 1)



AN/PVS-15A



GRI²P



LA-10/U Handheld Laser Marker



SU-267/P SPOTR Kit

SOF to Service



AN/PVS-30 (FY11)



LA-10/U Handheld Laser Marker (FY11)



AN/PAS-29 Clip-On Thermal Imager (FY13)



SOF WARRIOR



VAS Head-Mounted Roadmap

Current as of: 10-Apr-12

Visual Augmentation Systems Roadmap																												
FY	12				13				14				15				16				17				18			
	QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Head-Mounted Roadmap																												
Fusion Binocular Night Vision Device																												
Digital Fusion Goggle	S&T Development				DT/OT, Production and Fielding												F&DR				Fielding/Sustainment							
ARMY - AN/PSQ-20 (ENVG-O)	Services Efforts																											
ARMY - P31 Developmental & Potential New Start (ENVG)	P31: wire detect, compass, GPS, wireless sight link												Increased SA via advanced data processing/integration															
Seamless transition from low to high light (transition time)	Services Efforts																											
Seamless transition to weapon sight while wearing NODs	Services Efforts																											
Ability to jam enemy analog image intensification devices	Services Efforts																											
Adaptive multi-spectral night vision capability	S&T Development				DT/OT, Production and Fielding												Services Efforts											
Increased system FOV w/o resolution reduction	Services Efforts																											
Ability to import/export data to provided enhanced SA	Services Efforts																											
True color night vision	S&T Development												DT/OT, Production and Fielding															
Image fusion on a chip, improved refresh rate, SWaP	Services Efforts																											
Wireless universal power source	Services Efforts																											

Legend

SW PoR (based on P&R Docs)

S&T, DARPA, Lab Efforts

Services Efforts

Milestone (Req't Doc, Contract Award/Re-compete)

DT/OT, Production and Fielding



SOF WARRIOR



VAS Weapon-Mounted Roadmap

Current as of: 9 Apr 12

Weapon Mounted-VAS Roadmap

FY	12				13				14				15				16				17				18			
QTR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

VAS Weapon Night Sight Roadmap

Sniper

Ability to provide facial recognition at max range (1500-2000m)

Adaptive multispectral night vision

Ability to import/export data or images

Ability to sense wind at max range and calculate ballistic offset

Assault

CNVDSF

Adaptive multispectral night vision

Ability to import/export data or images

Day Sight Roadmap

Sniper

5-25x Nightforce (1st FPR)

Assault

Range dependent disturbed reticle sight

Combination mid range/CQB sight

MARINES - Squad Thermal System (clip-on weapon/hand-held)

Crew Served

Range dependent disturbed reticle sight

MARINES - Heavy Machine Gun Sight System Development

Weapon Laser Roadmap

Assault

Thermal Collimated Aiming Device (TCAD)

Low Speckle SWIR Illuminator (Army - NVESD)

Long Range - image data transmission for comm/intelligence gathering

Target Marking

Selectable Wavelength to Facilitate IFF

Non-proliferated band Illuminator/laser/sensor for sniper apps

Synchronizing Laser with Optics to Reduce SWaP

IR laser Illuminator adjustable for short-range urban to long-range in one

Cover Optics Detection (Optical Augmentation)

Legend

- SW PoR (based on P&R Docs)
- S&T, DARPA, Lab Efforts

- Services Efforts
- Milestone (Req Doc, Contract Award/Re-compete)
- DI/OI, Production and Fielding



Fire Support Systems Roadmap

Current as of: 12 Apr 12

		Fire Support Roadmap																											
FY		12				13				14				15				16				17				18			
QTR		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Engagement																													
Small Target Location Device (Interim)																													
Visible Daylight Marker																													
Combine Markers (Day/Night - Vis, IR, 1064nm)																													
Fire Support Munitions																													
Organic Precision Strike Systems																													
Non-organic Munitions that are responsive to trained personnel																													
Detect/Identify/Locate																													
Commercial GPS Functionality with SASSM Compliance																													
Sighting Devices and Other JTAC Equipment																													
Locate & Observe (No delays, No set-up time)																													
Light weight system to locate enemy artillery, mortar, and rocket fire																													

Legend

-  Services Efforts
-  Milestone (Req't Doc, Contract Award/Re-compete)
-  DT/OT, Production and Fielding



SOF WARRIOR



Lethality – Weapons “Today”

SOF-Peculiar
Service Transition/Common

	Pistols & Low Visibility	Combat Assault & Close Quarter Battle	Crew Served Machine Guns	Multi Role Grenade & Rocket Launchers	Sniper
SF/ODA	 M9	 M4 5.56mm w/ SOPMOD Kit	 M240L 7.62mm	 M249 5.56mm	 M110 7.62mm Semi-Automatic Sniper System (SASS)
RANGERS	 Glock 19 Glock 26	 MK17 Combat Assault Rifle	 MK48 7.62mm	 MK46 5.56mm	Family of Sniper Weapons 
AFSOC JTAC/CC		Modular 7.62mm	 M2A1 .50cal	 M203 40mm	 MK13 EGLM
SEALS	 Sig226 H&K .45	3 Barrels: • CQB • Assault • Sniper Spt		 MK19 40mm	 MK20 Sniper Support Rifle
MARSOC				 MAAWS	 MK15 or M107 .50cal
				 LAW	



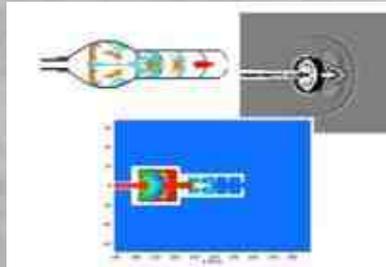
SOF WARRIOR



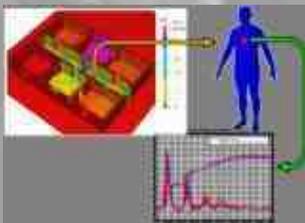
Weapons Initiatives

(FY) Transition Timeframe

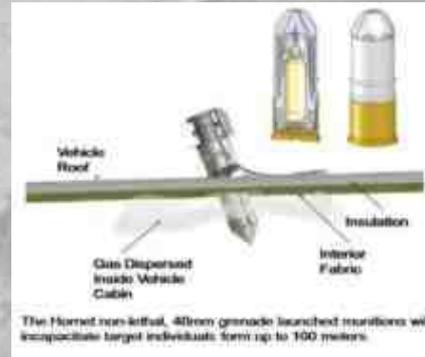
S&T to Program



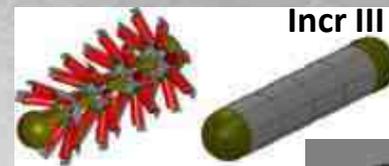
Signature reduction / suppressor technologies (FY13)



Complex Breaching Modeling (FY13)



KIBOSH 40mm Grenades



Harbinger 40mm Grenades

Incr I – Hail
Incr II - Warn

Incr III - Suppress



Incr IV - Disable

Scalable effects technologies (FY13)

Combat Eval to All SOF

- MAAWS ASM-509 & MT-756
- MK14 ASM Hand Grenade
- LAW M72A9 ASM
- MK13 BTV-1 Flash Bang Grenade



ASM Satchel Charges (FY08)



Combat Assault Pistol
Glock 19 (FY09)



Concealed Carry Pistol
Glock 26 (FY10)

SOF to Service



MK48 Lightweight Machine Gun (FY11)



Precision Sniper Rifle & .300 WinMag Ammo (FY13)



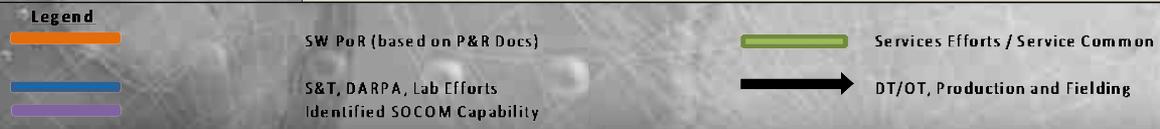
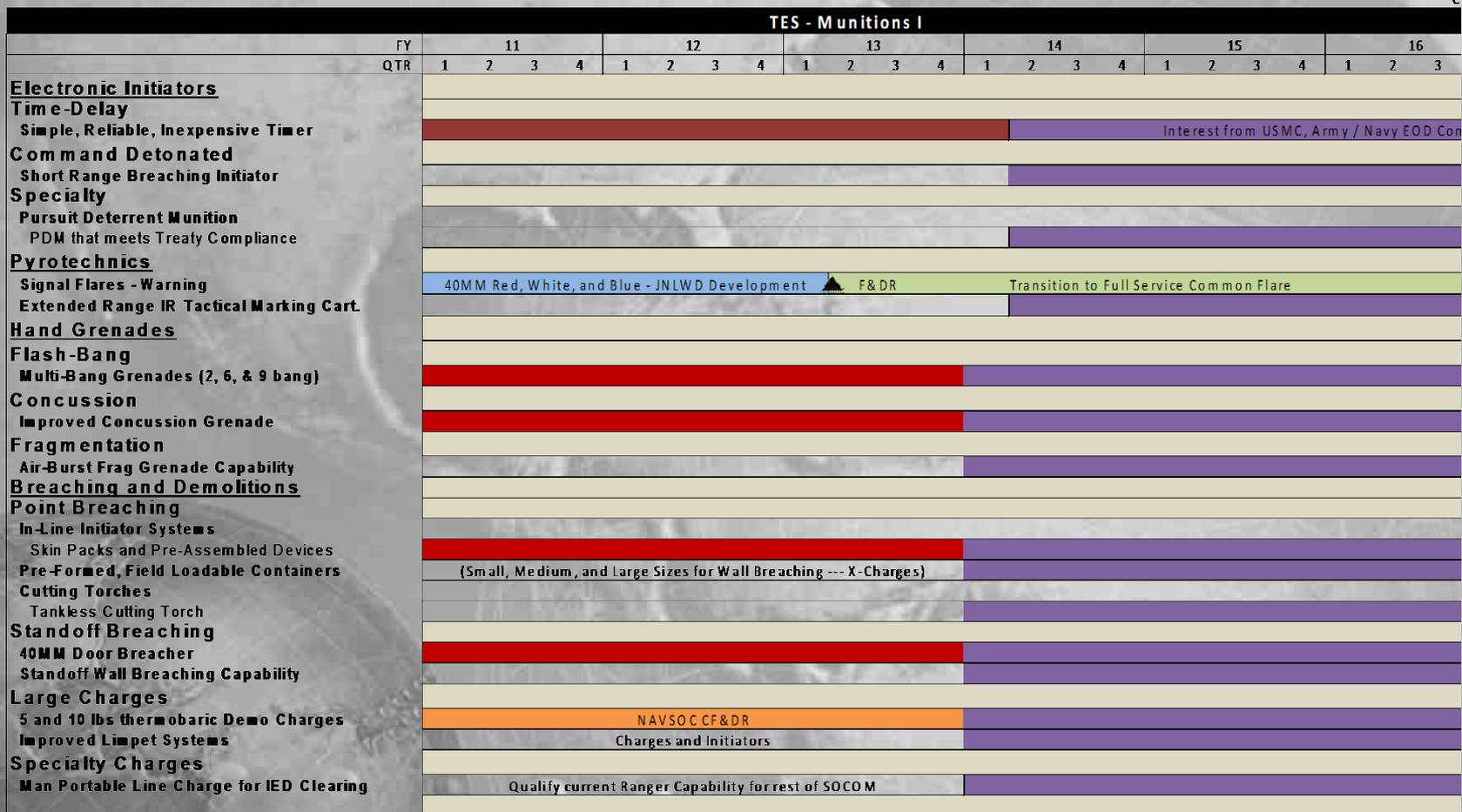
Light Assault Weapon (FY13)



SOF WARRIOR



Munitions Roadmap





SOF WARRIOR



Questions?

