Special Operations Forces

Industry Conference

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Program Manager
Lethality Systems


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
Lethality Systems Portfolio

- **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

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

- **Ammunition, Demolitions and Breaching**
  - Small Caliber Ammunition
  - Shoulder Fired Systems
  - Aviation Ammunition
  - Demolition kit
# Lethality – Sensors “Today”

<table>
<thead>
<tr>
<th>SF/ODA</th>
<th>Hand-Held Imagers</th>
<th>Head Mounted “Hands Free”</th>
<th>Weapon Mounted Night</th>
<th>Weapon Mounted Day</th>
<th>Lasers &amp; Fire Support</th>
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</thead>
<tbody>
<tr>
<td>RANGERS</td>
<td>AN/PAS-23 Short Range</td>
<td>AN/PVS-15A Night Vision Goggles</td>
<td>AN/PVS-26, AN/PVS-30</td>
<td>3X Magnifier, ACTS-SR</td>
<td>AN/PAS-21 IR sight for:</td>
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<tr>
<td></td>
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<td>Clip-On Thermal Imager (Accessory)</td>
<td>AN/PVS-24</td>
<td>ECOS-Q, SU-231A</td>
<td>AN/PEQ-1C Laser Acqn Marker</td>
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<tr>
<td>AFSOC JTAC/CC</td>
<td>AN/PAS-26 Medium Range</td>
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<td>SU-232/PAS</td>
<td>ECOS-Q, M1 Leupold Nightforce</td>
<td>LA-10/U Handheld Laser Marker</td>
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<td>TaNS</td>
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<td>LA-11/PEQ</td>
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<tr>
<td>SEALs</td>
<td>AN/PAS-24 Long Range</td>
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<td>SPOTR SU-267/P</td>
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<td>MARSOC</td>
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Sensor Initiatives

S&T to Program

- Clip-On SWIR Imager (COSI)
- Clip-On SWIR Sniper Sight (COS3)
- Clip-On SWIR Illuminator
- Micro-SWIR
- SWIR Technology Development (FY13-14)

Combat Eval to All SOF

- AN/PVS-22 (INOD Blk 1)
- AN/PVS-15A
- AN/PVS-30 (FY11)
- IZLID
- GRI²P
- LA-10/U Handheld Laser Marker
- LA-10/U Handheld Laser Marker (FY11)
- SU-267/P SPOTR Kit

SOF to Service

- AN/PVS-15A
- AN/PVS-30 (FY11)
- LA-10/U Handheld Laser Marker (FY11)
- AN/PAS-29 Clip-On Thermal Imager (FY13)

(FY) Transition Timeframe

- Hi-Def Micro Display & Integration Concepts
- Adv. Digital Multi-Spectral NVGs
- Adaptive Lens
- Rapid Adaptive Zoom for Automatic
- Wind Sensing for Improved Ballistic Solns
- Digital Fusion Goggle Technology Development (FY13-14)
Visual Augmentation Systems Roadmap

<table>
<thead>
<tr>
<th>FY</th>
<th>QTR 1</th>
<th>QTR 2</th>
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<th>QTR 4</th>
<th>QTR 1</th>
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**Head-Mounted Roadmap**

**Fusion Binocular Night Vision Device**
- Digital Fusion Goggle
- ARMY - AN/PSQ-20 (ENVG-0)
- ARMY - P31 Developmental & Potential New Start (ENVG)
- Seamless transition from low to high light (transition time)
- Seamless transition to weapon sight while wearing NODs
- Ability to jam enemy analog image intensification devices
- Adaptive multi-spectral night vision capability
- Increased system FOV w/o resolution reduction
- Ability to import/export data to provided enhanced SA
- True color night vision
- Image fusion on a chip, improved refresh rate, SWaP
- Wireless universal power source

**Legend**
- SW PoR (based on P&R Docs)
- S&T, DARPA, Lab Efforts
- Services Efforts
- Milestone (Reqt Doc, Contract Award/Re-compete)
- DT/OT, Production and Fielding

Current as of: 10-Apr-12
# VAS Weapon-Mounted Roadmap

## 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**
- NVIS-SF
- Adaptive multispectral night vision
- Ability to import/export data or images

## Day Sight Roadmap

**Sniper**
- 6-20x 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 Colimated Aiming Device (TCAD)
- Low Speed SWIR Illuminator (Army - NVESD)
- Long Range - image data transmission for combat intelligence gathering
- Target Marking
- Selectable Wavelength to Facilitate IFF
- Non-proliferated band illuminator/lasersensor for sniper apps
- Synchronizing laser with optics to reduce SWAP
- IR laser illuminator adjustable for short-range urban to long-range in one
- Cover Optic Detection (Optical Augmentation)

## Legend

- SW PhR (based on PAR/DoD)
- SB, DARPA, Lab Efforts
- Milestone (Req'd Doc, Contract Award/Re-compete)
- DI/OI, Production and Fielding
### Fire Support Systems Roadmap

<table>
<thead>
<tr>
<th>FY</th>
<th>12</th>
<th>13</th>
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<td>3</td>
<td>4</td>
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#### 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)
- Lightweight system to locate enemy artillery, mortar, and rocket fire

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**Legend**
- **Services Efforts**
- **Milestone (Req Del, Contract Award/Re-compete)**
- **DT/OT, Production and Fielding**
# Lethality – Weapons “Today”

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<tr>
<td>Pistols &amp; Low Visibility</td>
<td>Combat Assault &amp; Close Quarter Battle</td>
<td>Crew Served Machine Guns</td>
<td>Multi Role Grenade &amp; Rocket Launchers</td>
<td>Sniper</td>
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<tr>
<td>M9</td>
<td>M4 5.56mm</td>
<td>M240L 7.62mm</td>
<td>M203 40mm</td>
<td>M110 7.62mm</td>
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<tr>
<td>Glock 19</td>
<td>MK17 Combat Assault Rifle</td>
<td>MK48 7.62mm</td>
<td>ALGL except AFSOC</td>
<td>MK13 or M2010 .300 WinMag (except AFSOC)</td>
</tr>
<tr>
<td>Glock 26</td>
<td>Modular 7.62mm</td>
<td>MK46 5.56mm</td>
<td>MK19 EGLM</td>
<td>MK20 Sniper Support Rifle</td>
</tr>
<tr>
<td>Sig226 H&amp;K .45</td>
<td>3 Barrels: CQB, Assault, Sniper Spt</td>
<td>M2A1 .50cal</td>
<td>MK19 EGLM</td>
<td>MK15 or M107 .50cal</td>
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<tr>
<td></td>
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<td>M249 5.56mm</td>
<td>M203 40mm</td>
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<td>M249 5.56mm</td>
<td>MK1940mm</td>
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<td>M203 40mm</td>
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**SOF-Peculiar**
- MK13 or M2010 .300 WinMag (except AFSOC)
- MK20 Sniper Support Rifle
- MK15 or M107 .50cal

**Service Transition/Common**
- M110 7.62mm Semi-Automatic Sniper System (SASS)
- MK13 or M2010 .300 WinMag (except AFSOC)
**Weapons Initiatives**

**S&T to Program**
- Signature reduction / suppressor technologies (FY13)
- Complex Breaching Modeling (FY13)
- 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)

(FY) Transition Timeframe
- Incr I – Hail
- Incr II - Warn
- Incr III - Suppress
- Incr IV - Disable
### Munitions Roadmap

#### TES - Munitions I

| FY  | QTR | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| TES |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**Electronic Initiators**
- **Time-Delay**
  - Simple, Reliable, Inexpensive Timer

**Command Detonated**
- Short Range Breaching Initiator
- Speciality
  - Pursuit Deterrent Munition
  - PDM that meets Treaty Compliance

**Pyrotechnics**
- Signal Flares - Warning
- Extended Range IR Tactical Marking Carl

**Hand Grenades**
- Flash-Bang
- Multi-Bang Grenades (? , 6, & 9 bang)

**Concussion**
- Improved Concussion Grenade

**Fragmentation**
- Air-Burst Frag Grenade Capability

**Breaching and Demolitions**
- Point Breaching
  - In-Line Initiator Systems
  - Skin Packs and Pre-Assembled Devices
  - Pre-Formed, Field Loadable Containers
  - Cutting Torches
  - Tankless Cutting Torch
- Standoff Breaching
  - 40MM Door Breacher
  - Standoff Wall Breaching Capability

**Large Charges**
- 5 and 10 lbs thermobaric Demo Charges
- Improved Limpet Systems

**Specialty Charges**
- Man Portable Lim Charge for IED Clearing

**Legend**
- **SW Bre** (based on P&R Ideas)
- **S&T, DARPA, Lab efforts**
- **Definitive SDOM Capability**
- **Services Efforts/Service Common**
- **01/01, Production and Fielding**

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For further information or updates, refer to the Military Procedures Manual.
Questions?