Provide premier Soldier weapons systems enabling battlefield dominance
XM25 Counter Defilade Target Engagement System

**Description:**
- Three highly integrated components, Gun, Fire Control and Ammunition, optimized to produce a programmable, precision fire airburst weapon system
- Semi-auto, magazine fed, 25mm weapon:
  - Programmable, low velocity, high explosive air burst (HEAB) ammo and training practice (TP) rounds
  - Fully integrated day & thermal night sight with full solution target acquisition/fire control
- Latest design incorporates upgrades in reliability, performance, manufacturability of the weapon, target acquisition fire control, and ammunition

**Capabilities:**
- Incapacitates targets in defilade and exposed targets
- Point target range: 500 meters

- System in Engineering and Manufacturing Development
- Undergoing testing at Aberdeen Proving Ground, MD
- Low Rate Production starts, 4QFY16
- Currently producing systems:
  - Prime & Ammo: Orbital ATK
  - Weapon System: H&K Gmbh
  - TA/FC: L-3 Integrated Optical Systems
Modular Handgun System (MHS)

- **Description**
  - Handgun system with improved lethality, target acquisition, ergonomics, reliability, durability, and maintainability

- **Requirement**
  - US Army adoption of the USAF CPD, Oct 2013

- **Desired Capabilities**
  - Increased lethality, accuracy and reliability
  - Modularity aspect:
    - Interchangeable frame and/or grip dimensions
    - Ability to configure for diverse mission sets & users
    - Accessory ready: aiming lasers, illuminators, suppressors, and others

- **Acquisition Strategy**
  - Full and Open Competition based on a Performance Specification
    - Phase I: Bid sample testing and written proposal evaluation
    - Phase II: Down-select evaluation phase
  - Award Full Rate Production Option to the winning vendor (max quantity 550,000)

Balanced, effective acquisition approach to deliver a MHS to meet the needs of the Joint services
M4A1 Carbine

- **Description:**
  - A compact version of the M16A2 rifle, with a collapsible stock, a upper receiver accessory rail w/ detachable handle/rear aperture site assembly

- **Background:**
  - More than 90 performance-based design improvements since its inception in early 1990s
  - **Army authorized upgrade of all M4s to the M4A1 configuration in Sep 2010**
    - Will result in the conversion of approximately 483,000 weapons
    - To date over 50,000 systems have been converted
  - **Army decision to “pure-fleet” its mix of M16/M4 carbines to the M4A1 configuration in Jan 2014**
    - Limited Full & Open Competitive action for a maximum quantity of 292K systems

- ✓ Currently producing systems via FN Manufacturing, LLC
- Limited Full & Open Competition
- ✓ Sources Sought Notice released, May 2014
- ✓ RFP release, Dec 2014
- ✓ RFP closed, Feb 2015
- ▪ Contract Award, 4QFY15

Continue to incrementally improve the capability of the Army service rifle
Improvements to the M4A1 (M4A1+)

- **Effort:**
  - Incremental improvement of the M4A1 carbine consistent with the Army’s overall strategy
  - The M4A1+ modifications will provide for improved mounting flexibility for enablers (lights, lasers, optics, slings, grips, bipods, ancillary weapons, etc.) and enhanced flexibility in system configuration
  - Pursue capabilities via a NDI approach; low risk for performance
    - Dual path strategy permits new weapon and MWO implementation options
  - Replace M4A1s in BCTs with the upgraded system

- **Focus areas for improvement:**
  - System Accuracy, Dispersion, Zero Retention and Zero Repeatability
  - Improved Extended Forward Rails
  - Improved Back-Up Sights
  - Compatibility With Current Accessory Systems
  - Enhanced Trigger Module
  - Improved Flash Suppressor
  - Improved Charging Handle

- **Sources Sought Notice released, Mar 2015**
  - Identify sources capable of the production of specific attributes or capabilities that would provide enhanced lethality, survivability, and operational effectiveness

- **Sources Sought Notice closed, Apr 2015**

- **Solicitation release, FY16**

Continue to incrementally improve the capability of the Army service rifle
The Army is replacing the current M4 and M16 magazine with the Enhanced Performance Magazine (EPM)

- EPM improves the overall system reliability when firing M855A1 EPR
- Developed by ARDEC and ARL, the EPM features an increased angle on the feed lip and an extended front wall height

Benefits:
- Eliminates weapon wear
- Increases reliability and durability
- Improves mean time between stoppages
  - 98.32% Probability of completing a 209 round mission without failure
    (Reliability – 13,973 MRBS as a system)

Manufactured by Center Industries, Wichita, KS

Fielding:
- Seven (7) magazines for every rifle/carbine
- Fielding with current production will commence in FY16
- Will be available for Units to requisition from the supply system this summer
M320/M320A1 Grenade Launcher Module

**Description:**
- The GLM is a 40mm grenade-launching weapon system
- M320 mounts under M16; M320A1 mounts under M4 series
- Improves squad level indirect/direct grenade launching capability out to 400m

**Requirement:**
- Capability Production Document (CPD), Feb 2007; Revised Jun 2007

**Background:**
- Full Materiel Release, Dec 2008
- Over 40K systems fielded to date

- Currently producing M320 systems via H&K Defense
- Full & Open Competition to complete the Army’s procurement objective
- ~32,000 systems
- Sources Sought, Jan 2014
- TDP converted to Govt. format
- RFP released, Nov 2014
- RFP closed, Jan 2015
- Competitive Contract Award, Jul 2015
Grenadier Sighting System (GSS)

**Description:**
- The GSS provides Soldiers the ability to quickly and accurately engage targets with the M320/M320A1 day or night

**Desired Capabilities:**
- Updatable for future ammo
- Capable of multiple ballistic solutions and presets selected by the user
- Night time operation capability
- Long run time
- No special tools

**Acquisition approach:**
- Full and Open Competition to award two indefinite delivery/indefinite quantity (IDIQ) contracts for a short term developmental effort, with a down-select to a single vendor for production

✓ ~84,000 GSS
✓ Draft Solicitation, Jan 2015
✓ Industry Day, Feb 2015
  - Solicitation release, Jun 2015
  - Solicitation closes, Jul 2015
  - Contract Award, 3QFY16
Fire Control, Squad

- **Description:**
  - Integrated fire control optic consisting of direct view optic, ballistic module, atmospheric sensors, range finder, and in-scope display overlay

- **Requirement:**
  - Draft Capability Development Document (CDD) in process
  - Squad, Precision, and Crew Served as one CDD with separate Engineering and Manufacturing Development efforts
  - Squad, Precision, and Crew Served as three separate Capability Production Documents CPDs with Production and Deployment efforts

- **Acquisition approach (Squad):**
  - Full and Open Competition to award two indefinite delivery/indefinite quantity (IDIQ) contracts for a short term advanced developmental effort, with a down-select to a single vendor for production

  - ~68,000 systems
  - Industry Day #1, Aug 2015
  - Requirement approved, 4QFY16
  - Draft Solicitation release, 1QFY17
  - Industry Day #2, 2QFY17
  - Solicitation release, 2QFY17
  - Contract Award, 3QFY17
Back-up
Small Arms Fire Control Technology Needs

• Enhanced Target Acquisition
  • Improved ability to detect, situate, and acquire threats
  • Systems to enhance identification and target prioritization
  • Tools to aid in damage assessment

• Enhanced Ballistic Solution Technologies
  • Accurate, verifiable, updatable ballistics computation
  • Environmental sensors (local and at target)
  • Display firing solution to Soldier without compromising direct view optic

• Closed Loop Fire Control
  • Tracking of last shot, to allow compensation on follow-up
  • Control and programming of programmable ammunition

• Accurate Weapon Orientation
  • Miniaturized/Low Power elevation and cant sensors
  • Orientation relevant to target, fed to ballistics computer

• Reduced SWAP—both opto-mechanics and electronics
Future Fire Control Technologies

Goals:
- Range Determination
- Target Recognition
- Target Tagging
- Target Tracking
- Incident Firing
- Platform Stabilization
- Net Ready (Intra-Soldier)
- Integrated yet Modular (Built as a system but replaceable components)
- MET data
- Digital overlay within DVO
- Ballistic computation with environmental factors
- Disturbed reticle
- Acceptable Cost
- Weight

Future fire control and optics should be built around a modular concept consisting of an optic, a range finder, a ballistic computer, a limited visibility unit, and an appropriate suite of sensors, where each module can be upgraded or replaced independent of the other modules (open system architecture). Critical to the system is a Direct View optic that requires zero power to operate. The modules can be integrated through any means as long as they are able to be replaced and upgraded independently.
FC Technology Advancement

• Military Grade Optics can be viewed as three generations:
  – 1st Generation: Traditional fixed power optics
    • M68 Close Combat Optic: FUE: 1998, AAO: 918,122
    • M145 Machinegun Optic: FUE: 2003, AAO: 51,196
    • M150 Rifle Combat Optic: FUE: 2006, AAO: 195,111
  – 2nd Generation: Variable power optics, with moving parts
    • M107 Sniper Weapon System: FUE: 2004, AAO: 3,643
    • M110 Semi-Automatic Sniper System: FUE: 2007, AAO: 3,389
    • M2010: FUE: 2010, AAO: 2,675
  – 3rd Generation: Direct View Optics with integrated digital display overlays
    • XM25 Counter-Defilade Target Engagement System
    • Fire Control CDD

• Various generations of optics are currently being fielded on a platform by platform basis
• Intention is to move to a fully 3rd Generation fire control force by 2020
  – Required in order to achieve increased probability of hit at extended ranges

Maneuver Center of Excellence Guidance:
All 3rd Generation fire control devices must retain a direct view optical path and a hard reticle.
• Complete loss of functionality in a power deprived environment is not an option.
• Desired capability is a digital display overlay on a direct view optic.