PM Individual Weapons
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PM Individual Weapons Portfolio

Current

M4/M4A1
Carbine

M26
Modular Accessory Shotgun System (MASS) Stand-alone

M4 w/ M26
Modular Accessory Shotgun System (MASS)

M320
40mm Grenade Launcher Stand-alone

M4 w/ M320A1
Grenade Launcher

M4 w/ M203
Grenade launcher

M68
Close Combat Optic (CCO)

M150
Rifle Combat Optic (RCO)

Near Term

XM25
Counter Defilade Target Engagement (CDTE) Weapon System

Modular Handgun System (MHS)

M4A1+

Future

Next Generation Squad Weapon (Carbine)

Subcompact

Suppressors

Fire Control

Squad

Grenadier Sighting System

"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

Precision airburst capability increases squad effectiveness

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)

- ✓ Industry Day, Dec 2013
- ✓ 2nd Industry Day, Jul 2014
- ✓ Draft Solicitation, Sep 2014
- ✓ 3rd Industry Day, Oct 2014
- Draft Solicitation, Jun 2015
- 4th Industry Day, Jul 2015
- Final RFP, Aug 2015

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

<u>Limited Full & Open Competition</u>

✓ 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 released, Mar 2015
- ✓ Sources Sought Notice closed, Apr 2015
- ▪ Solicitation release, FY16

Continue to incrementally improve the capability of the Army service rifle

Enhanced Performance Magazine

- **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

Full and Open Competition to complete the Army's procurement objective

✓ Currently producing M320 systems via H&K Defense

<u>Full & Open Competition</u>

✓ ~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

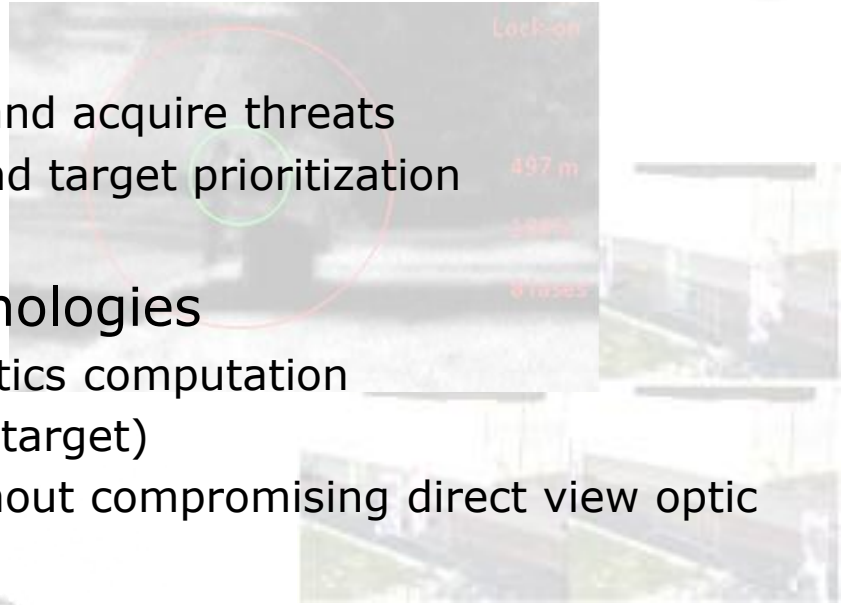
Fire Control, Squad

- **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

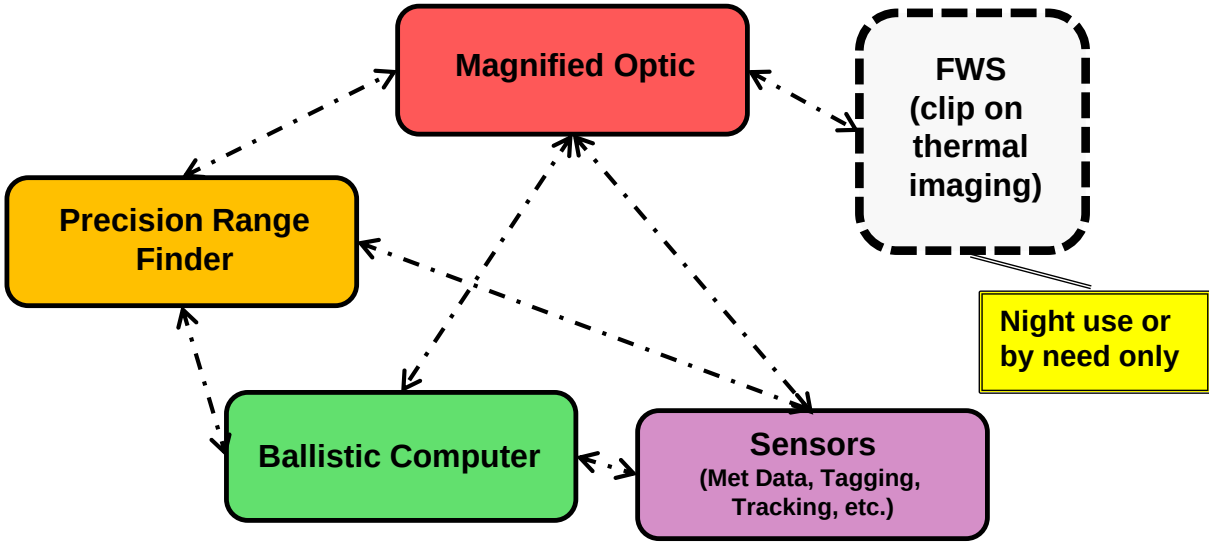


- Enhanced Target Acquisition
  - Improved ability to detect, situate, and acquire threats
  - Systems to enhance identification and target prioritization
  - Tools to aid in damage assessment
- Enhanced Ballistic Solution Technologies
  - Accurate, verifiable, updatable ballistics computation
  - Environmental 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.