



2018 NDIA Armament Systems Forum

Small Arms Systems Track
Wednesday, 9 MAY 2018

7-10 MAY 2018

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DISTRIBUTION STATEMENT A:
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Dated: 12 APR 2018



Project Manager Maneuver Ammunition Systems (PM MAS)



STRYKER MGS



M4

• 105mm, 120mm Tank Ammunition

ABRAMS



Product Manager Large Caliber Ammunition



C-RAM



AC130

Product Director Medium Caliber Ammunition



JLTV 30X113mm



• 20mm, 25mm, 30mm, 40mm

APACHE



MK19



COBRA



Provides Acquisition, Program & Engineering Management Expertise in Support of:

- Developing and Acquiring all Direct Fire Ammunition for the Army (5.56mm to 120mm)
- Acquiring Direct Fire Ammunition for Air Force, Navy, Marine Corps & SOCOM in support of DoD's Single Manager for Conventional Ammunition (SMCA)
- Acquiring Non-DoD Standard Ammunition in Support of Allied Forces
- Direct Support to Cross Functional Teams

Product Manager Small Caliber Ammunition

• 5.56mm, 7.62mm, 9mm, .50 CAL
• Lake City Army Ammunition Plant (LCAAP)



M249



9MM



12 Gauge



Product Director Special Ammunition & Weapon Systems (SAWS)

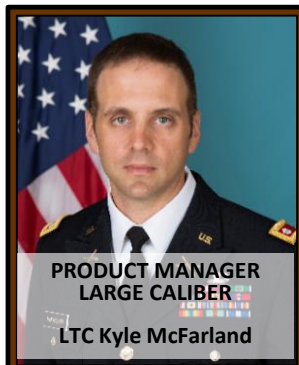
• Foreign Small Cal, Medium Cal, RPG, Mortars, Artillery





PM MAS Organization

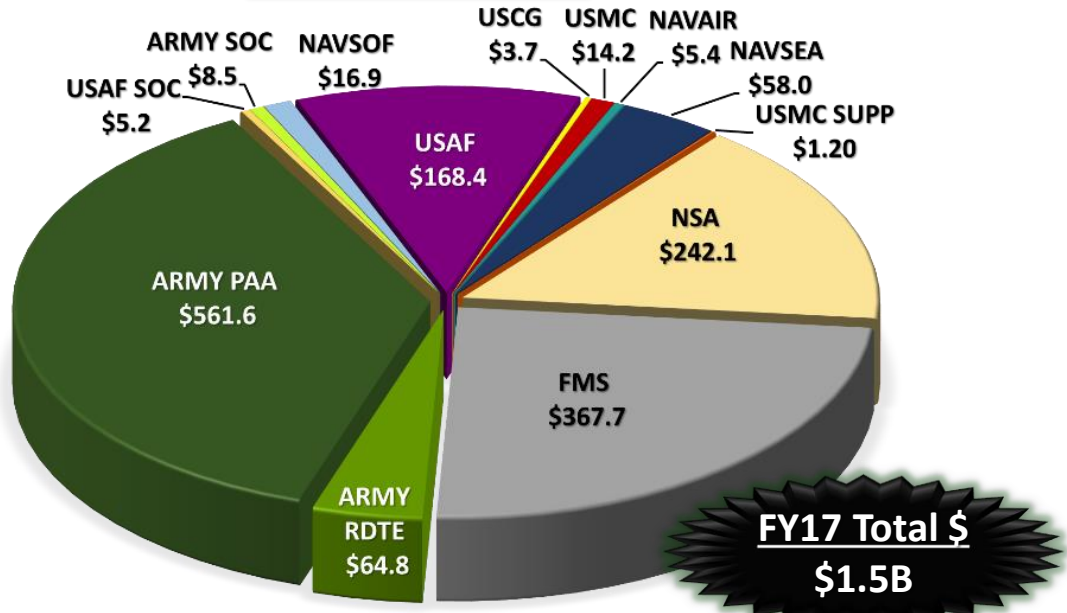
PM / DPM





Support to Warfighter

PRODUCTION



DEVELOPMENT

Category	Item	ACAT
SMALL CALIBER	XM1158, Advanced Armor Piercing (ADVAP)	ACAT III
	7.62mm One Way Luminescence (OWL)	ACAT IV
	7.62mm Reduced Range Ammunition (RRA)	ACAT IV
	.50 CAL Reduced Range Ammunition (RRA)	ACAT IV
MEDIUM CALIBER	30mm Airburst	ACAT III
	30mm Stryker Lethality	ACAT III
	40mm I-HEDP	ACAT III
	40mm Door Breach	ACAT IV
	40mm HEAB	ACAT III
	40mm Low Velocity (LV) TP-DNT	ACAT IV
LARGE CALIBER	40mm High Velocity (HV) TP-DNT	ACAT IV
	120mm Advanced Multi-Purpose (AMP)	ACAT III
	120mm M829A4	ACAT III
	105mm M724A2	ACAT IV

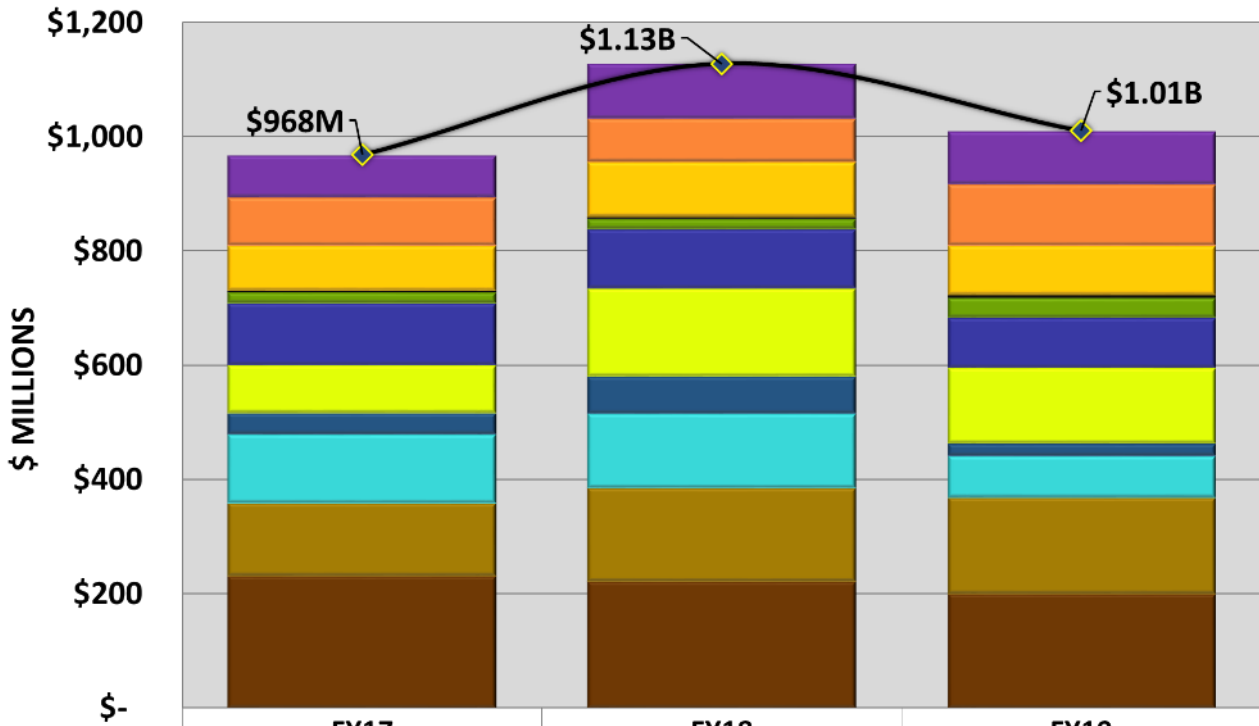
QTY Deliveries: FY17	
Small Caliber	782M
Medium Caliber	16M
Large Caliber	58K
SAWS	110M
TOTAL QTY.	908M

FY18 Fielding

- 20mm M940 JUONS
- 30mm Stryker Suite (4)



PB19 All Services (FY17-FY19)



	FY17	FY18	FY19
5.56mm	\$74	\$96	\$92
7.62mm	\$84	\$76	\$108
.50 CAL	\$79	\$97	\$87
MISC	\$3	\$4	\$5
HANDGUN	\$19	\$18	\$34
20mm	\$109	\$104	\$88
30mm	\$84	\$154	\$132
25mm	\$38	\$65	\$22
40mm	\$120	\$129	\$74
105mm, 120mm	\$127	\$164	\$168
SAWS	\$232	\$222*	\$200*
♦-TOTALS	\$968	\$1128	\$1010

***PROJECTED**



Future PM MAS Competitive Opportunities

FY18					
Program/ Item/ Description	Projected RFP Release	Projected Award Date	Potential Contract Value	Contract Strategy	Contract Type
Medium Caliber Family	MAR 18	AUG 18	\$2B	Limited Competition	IDIQ
40mm, HEAB	MAY 18	SEP 18	\$36M	Competitive	DOTC
Large Caliber Support	MAY 18	OCT 18	\$3.8M	SBSA	FFP
PM MAS Support	MAY 18	NOV 18	\$13.6M	Competitive	IDIQ
- FY19 -					
Dummy, Drilled, Inert	AUG 18	JAN 19	\$6M	Competitive	FFP
40mm, LV Door Breach	MAY 18	MAR 19	\$52.4M	Competitive	FFP
12 Gauge Breaching	JUN 18	MAR 19	\$18M	Competitive	IDIQ
40mm, NRE	JUN 18	MAR 19	\$15M	Competitive	IDIQ
40mm, HV HEDP-AB	JUL 18	MAR 19	\$92.9M	Limited Competition	TBD
.300 WINMAG	JUL 18	MAR 19	\$6M	Competitive	FFP
Lake City AAP Production	NOV 18	SEP 19	\$8.37B	Competitive	FFP



Small Caliber Ammunition Future Capabilities

7-10 MAY 2018

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Small Caliber Ammunition Family



5.56mm

- M199A1 DDI
- M1037 SRТА
- M862 SRТА
- M200 Blank
- M193 Ball
- M855 Ball
- M856A1 Trace
- M995 AP
- M855A1 EPR



9mm

- M882 Ball
- MK243 JHP
- M917 DDI



7.62mm

- M63A1 DDI
- M973 SRТА
- M974 SRТА
- M993 AP
- M62 Trace
- M62A1 Trace
- M80 Ball
- M80A1 EPR
- M82 Blank
- M276 Dim Trace
- M118 Ball
- MK248 Mod 0
- LSCA
- RRA



M249



M2 Browning



M240



Shotshells

- .22 Long Rifle
- 12 Gauge Buckshot
- M1030 Breach



CCMCK

- M1041
- M1071
- M1042

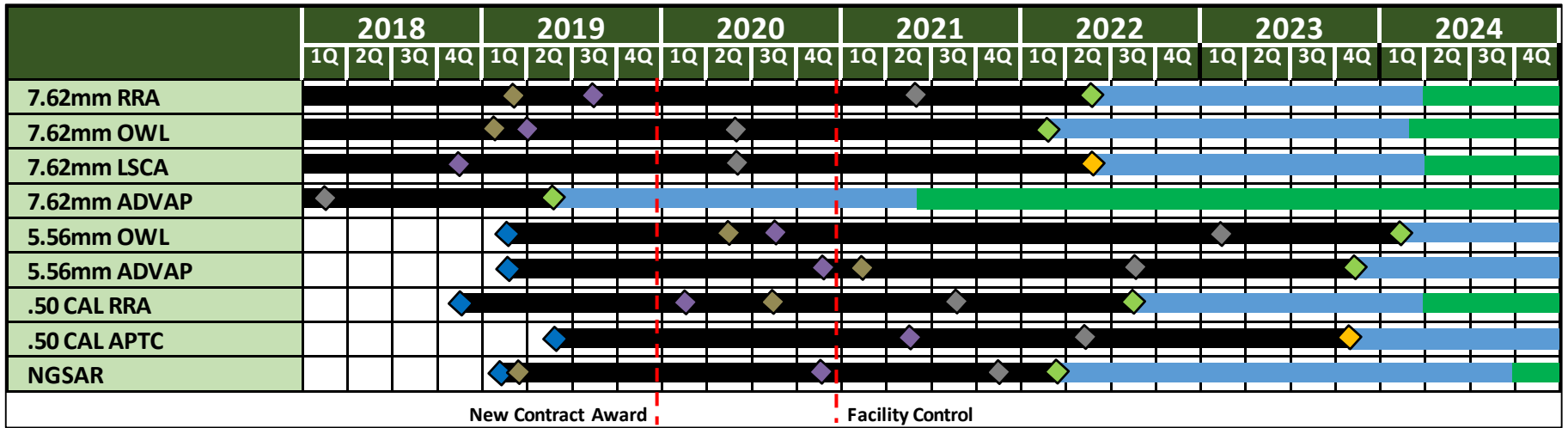


.50 Cal.

- M1A1 Blank
- M33 Ball
- M17 Trace
- M20 API-T
- M8 API
- M211 API
- MK257 API-DT
- M263 AP
- M962 SLAP-T
- M903 SLAP
- M860 Tracer
- M858 Ball
- M2A1 DDI



Potential Future Technologies



- ◆ Materiel Devel. Decision (MDD)
- ◆ Preliminary Design Review (PDR)
- ◆ Milestone B (MS B)
- ◆ Critical Design Review (CDR)
- ◆ Milestone C (MS C)
- ◆ Fielding Decision (FD)

Research & Development

Plan / Facilitize for Production

Production

Advanced Armor Piercing (ADVAP)
 Provide overmatch capability vs. broad spectrum of hard targets *Increase Lethality*

One Way Luminescence (OWL)
 Significantly reduced signature preventing threat from tracing round back to shooter while providing Enhanced Performance Round (EPR) effects in the tracer *Enhance Warfighter Survivability & Enhance Lethality*

Lightweight Small Caliber Ammunition (LSCA)
 Reduce Warfighter burden *Lighten Warfighter Load*

Reduced Range Ammo (RRA)
 Reduce maximum range while maintaining tactically relevant training range *Improve Warfighter Training*

All Purpose Tactical Cartridge (APTC)
 Improve .50 caliber capability to include overmatch capability against broad spectrum of targets; implement LSCA and OWL *Increase Lethality / Lighten Warfighter Load / Enhance Warfighter Survivability*

Next Generation Squad Automatic (NGSAR) Ammunition
 Provide leap ahead performance at squad level including improved overmatch against a broad spectrum of targets *Increase Lethality / Lighten Warfighter Load / Enhance Warfighter Survivability*



Small Caliber DOTC Opportunities

AMM-19-01	Next Generation Family of Ammunition projectile, components and subassemblies	...development and delivery of prototype Government designed projectiles, components and subassemblies for small arms weapons systems below .50 caliber. The contractor will explore alternate manufacturing methods to machine, cast, and manufacture the prototype parts ... then develop new prototypes based on new methods and designs
AMM-19-02	Close Combat Mission Capability Kit (CCMCK) & ammunition for the Next Generation Weapon Systems	...innovative and cost-effective... low velocity marking ammunition. The system will provide normal environmental/weapon employment cues (aiming, firing, ejection, immediate action, load, and re-load, etc.) and immediate target feedback through force-on-force, interactive live fire scenario task, and mission execution
AMM-19-03	Small caliber propellant	...propellant that could improve performance, safety, and producibility...prototype propellants shall include analysis by state-of-the-art analytical techniques including Insensitive Munitions/Final Hazards Classification, performance, characterization, functionality, and qualification testing
AMM-19-04	Tracer cartridges for the Next Generation Family of Ammunition	...innovative and cost-effective tracer cartridge for the Next Generation Squad Automatic Rifle (NGSAR) / Next Generation Carbine (NGSC)
AMM-19-05	Reduced Range Training Cartridges for the Next Generation Family of Ammunition	...innovative and cost-effective Reduced Range Training Ammunition (RTA) for the Next Generation Squad Automatic Rifle (NGSAR) / Next Generation Squad Carbine (NGSC)... to allow soldiers to effectively train with standard service ammunition on ranges with reduced Surface Danger Zones (SDZ)
AMM-19-06	[Lightweight] ammunition, components or sub-assemblies	...development of lightweight small caliber ammunition and components. The prototypes shall provide a minimum of 10% overall weight savings for cartridges, subassemblies and components
AMM-19-07	Ammunition, components, or sub-assemblies	...removal of lead from its small caliber cartridges configurations... the prototypes will be fully utilized through demonstrations/testing

Enhanced White Papers Due in BIDS by 15 MAY 2018



Small Caliber DOTC Opportunities (cont.)

AMM-19-08	Projectiles, cases, cartridges, and other cartridge components for .50 caliber and below	...development and evaluation of prototype solutions to enhance performance, affordability, manufacturability, test requirements, consistency, and environmental effects in small caliber ammunition. Enhancements can include, but are not limited to, alternative components, subcomponents, ancillary components, energetics, test materials/equipment, and reduced product variability. Environmental effects improvements can include, but are not limited to, materials and technology to reduce cartridge effects on the environment and environmental effects on the cartridge such as: corrosion prevention, removal of lead in ammunition systems, solvent-less waterproofing, and mercury replacement
AMM-19-09	prototype projectiles, propellants, cartridge configurations, and process control methods for .50 caliber and below	...technical solutions to enhance dispersion performance and/or consistency. Enhancements can include but are not limited to reduction in dispersion requirement for acceptance and/or reduction in lot to lot dispersion performance
AMM-19-10	prototype hardware, inspection systems, and process control methods for .50 caliber and below	...eliminate the contamination of key nonconforming and/or erroneous components/product throughout the manufacturing process. Solutions can include but are not limited to, containers, process control, and inspection systems/methods.
AMM-19-11	small caliber (.50 caliber and below) projectiles containing alternate tracer systems and/or trace system components	...development, improvement, optimization, and/or manufacture of alternate tracer ...only be visible from behind the projectile...
AMM-19-12	ammunition, components, or sub-assemblies of projectile and cartridge configurations	...development of... Reduced Range Ammunition. This program seeks to leverage and develop Non-Developmental Items (NDI), Commercial-Off-The-Shelf (COTS) solutions, and new technology concepts and prototypes that maintain or improve effective range, accuracy, reduce weight, reduce cost, improve health effects for Soldiers, and/or reduce the maximum range (Surface Danger Zone)
AMM-19-13	cartridges cases, and assemblies related to Small Caliber Ammunition and Weapons	...development of alternative cartridge case configurations that enhance performance, increase lethality, reduce weight, reduce cost, or improve health effects for soldiers. The technologies shall be applicable to traditional shouldered cases or nontraditional designs such as Cased Telescoped (CT), caseless, sub-caliber or others. Prototypes may be intended as drop in solutions for current weapons or be in support of next generation weapon systems

Enhanced White Papers Due in BIDS by 15 MAY 2018



Medium Caliber Ammunition Future Capabilities

7-10 MAY 2018

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Ammunition**

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04 MAY 18 v4-FINAL

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Medium Caliber Ammunition

20mm
 MK244 M940 PGU27 PGU28 PGU30
 Super Cobra AH-1 F-18 Hornet

25mm
 M791 M792 M793 M910 PGU23 PGU25 PGU32 M919
 BRADLEY LAV AC-130

30mm x 113
 M788 M789
 APACHE

30mm x 173
 MK238 MK239 MK258 MK266 MK310 MK317 PGU14 PGU15 PGU13B
 LPD-17 A-10

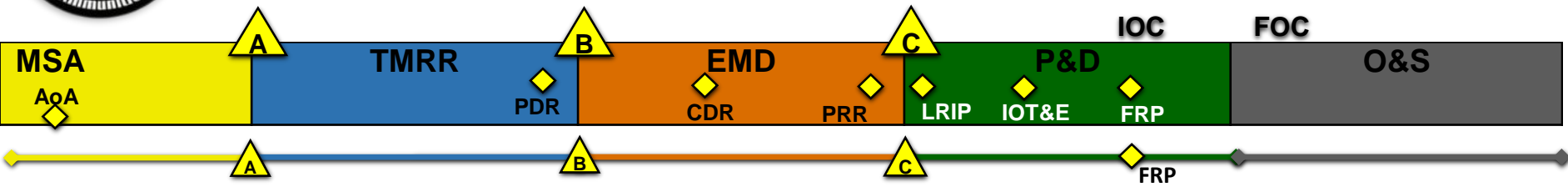
40mm L60
 PGU-9
 AC-130

40mm High Velocity
 M918E1 M430A1 M918 M385A1
 F-16 Fighting Falcon F-15 Eagle F-35 C-RAM MK 19 F-22 Raptor

40mm Low Velocity
 M781E1 M433 M781 M992 M662 M661 M585 M583A1
 BLACKHAWK M203 M320



Medium Caliber Development Program Overview



	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24		
20mm M940 JUONS	JUONS	SC SV	Fielding							
30x113mm M-ATV Lethality (UMR)		Links Contract Award	Qual	SC UMR	Fielding					
30x173mm Stryker Lethality (UMR)	Safety Confirmation	UMR	Fielding							
30x173mm Stryker Lethality (FMR)				CPD	MS C		FMR FRP			
30x173mm AB (UMR)	DOTC Award 1	DOTC Award 2	SC	UMR	Prod Award	Fielding				
30x173mm AB				CDD	MDD	MS B	Downs-Select	CDR	DT&E	MS C
40mm HV / LV DNT	MS C	FAAT	FMR FRP							
40mm LV HEAB	MDD	MS B			CDR	Downselect	MS C	FMR FRP		
40mm I-HEDP		MDD MS B	EMD Award		CDR	DT&E	MS C	IOT&E FMR FRP		
40mm DB	MDD	MS B	Bid Sample	EMD Award	DT&E	MS C	FMR FRP			



Medium Caliber DOTC Opportunities

AMM-18-14	Integrated multi-mode selectable fuze and setter for M789 cartridge and M230 weapon system	Selectable proximity airburst munition for the Apache
AMM-18-16	Next Generation technologies for medium caliber cannon ammunitions	Archer and ARAPS
AMM-18-17	30x113mm cannon caliber ammunition	Linked Ammo for JLTV
AMM-18-26	Next generation 40mm grenade cartridge ammunition	40mm C-UAS and SRAP
AMM-19-05	40mm High Velocity XM1176 High Explosive Dual Purpose Airburst (HEDP AB)	
AMM-19-06	40mm Low Velocity XM1167 Door Breaching	
AMM-19-08	Multi-Mode Selectable Proximity Airburst 30x113mm	LW30
AMM-19-09	30x173mm Programmable Airburst	Stryker Platform w/ 30mm cannon



Questions?