



CURRENT FORCE



Current Force



Current Force	Key Requirements	Products	Future
ABRAMS M1A1 M1A2 M1A2 SEP	Heavy Armor > MBT w/ ADV ERA	M829A2 APFSDS-T	M829E3 APFSDS-T
	Light Armor & APC's > BMP/BTR	M830A1 HEAT-MP-T	
	Attack Helicopters > Hovering & Evasive	M830A1 HEAT-MP-T	
	Assaulting Infantry > 1 Shot vs Squad > 2 Shots vs Platoon		XM1028 Canister
	Buildings, Bunkers (Incapacitation)	M830A1 HEAT-MP-T	
	Concrete Obstacles & Rock Drop (USFK)	XM908 OR-T (USFK Only)	XM908 OR-T (World Wide)
	Training	M865 TPCSDS-T; M831A1 TP-T	XM1002 TPMP-T



Current Force



Current Force	Key Requirements	Products	Future
BRADLEY Fighting Vehicle with M242 25mm Cannon	LAV ➤ BMP/BTR	M919 APFSDS-T	
	Light Structures/Anti-Personnel ➤ ATGM Teams ➤ Squads in Open ➤ Incapacitation	M792 HEI-T	
	Training	M910/M793	M910E1
HELICOPTERS APACHE w/ M230 30mm Cannon BLACKHAWK w/ M230 30mm Cannon	Light Skinned Vehicles/Light Structures/Anti-Personnel/ ➤ ATGM Teams ➤ Squads in Open ➤ Incapacitation ➤ Training (SOF only)	M789 HEDP	
	Training	M788	
MK19 Grenade Machine Gun, 40mm	Anti-Personnel ➤ ATGM Teams ➤ Squads in Open ➤ Incapacitation	M383/M384/M1001	M1001
	Light Skinned Vehicle/Anti-Personnel ➤ ATGM Teams ➤ Squads in Open ➤ Incapacitation	M430/M430A1	
	Training	M918/M385A1	
M203 Grenade Launcher, 40mm	Light Skin Vehicles/Anti-Personnel ➤ ATGM Teams ➤ Squads in Open ➤ Incapacitation ➤ Anti-Personnel within Structures	M433	Thermobaric
	Signal/Illumination	M583A1/M661/M662	
	Tear Gas	M651	
	Training	M781	

INTERIM

FORCE





Interim Force



Interim Force	Key Requirements	Products
MGS Infantry Support	Anti-Armor ➤ MBT	M900 APFSDS-T
	Assaulting Infantry 1 Shot vs Squad 2 Shots vs Platoon	XM1040 Canister
	Wall Breach ➤ 3 Shots	HE-T M393A2 (Replacement)
	Buildings, Bunkers (Incapacitation)	XM1040
	Light Armor ➤ BMT ➤ BTR ➤ APC	M456A2 Heat
	Training	TP-T, M490A1, M724A1



Interim Force



Interim Force	Key Requirements	Products
MK19 Grenade Machine Gun, 40mm	Anti-Personnel > ATGM Teams > Squads in Open > Incapacitation	M383/M384/M1001
	Light Skinned/Anti-Personnel > ATGM Teams > Squads in Open > Incapacitation	M430/M430A1
	Training	M918/M385A1
M203 Grenade Launcher, 40mm	Anti-Personnel > ATGM Teams > Squads in Open > Anti-Personnel within Structures	Thermobaric
	Light Skin Vehicles/Anti-Personnel > ATGM Teams > Squads in Open > Incapacitation	M433
	Signal Illumination	M583A1/M661/M662
	Tear Gas	M651
	Training	M781
Comanche Heli 20mm GD/GIAT Gun	Aircraft/Light Skin Vehicles	20mm Multi-Purpose
	Anti-Personnel	

OBJECTIVE FORCE





Objective Force



Objective Force	Key Requirements	Products
MCS	Heavy Armor MBT w. ADV ERA (0-4 km)	ADV. KE
	Heavy Armor MBT w. ADV ERA (2-12 km)	MRM
	Buildings, Bunkers (Incapacitation)	ADV. MP
	Helicopters/UAV	ADV. MP
	Reinforced Concrete Walls (Breach) <ul style="list-style-type: none"> ➤ 1 Shot Objective ➤ 3 Shots Threshold 	ADV. MP
	Assaulting Infantry	ADV. MP



Objective Force



Objective Force	Key Requirements	Products
ICV, ARV-A, MULE w/ Medium Caliber Cannon(s)	LAV > BMP > BTR > Future LAV	Armor Piercing
	ATGM Teams/Infantry/Light Structures	Airburst
	Training	Trainers
CCV, ARV-RSTA, R&SV w/ Medium Caliber Cannon(s)	Self Defense	Armor Piercing
		Airburst
		Trainers
SOF Blackhawk w/ M230 Cannon	Light Skinned Vehicles/Light Structures/Training	Adv. 30mm MP or 30mm Airburst
	Anti-Personnel	30MM Air Burst
Comanche Heli 20mm GD/GIAT Gun	Aircraft/Light Skin Vehicles	20mm Multi-Purpose
	Anti-Personnel	

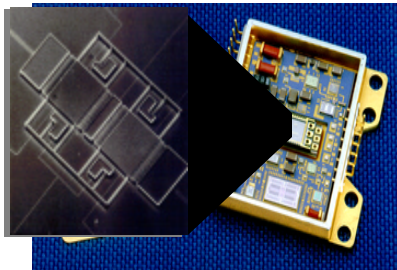


Common Gun and Missile Component Development Strategy

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Microelectrical Mechanical Systems Inertial Measurement Unit (MEMs-IMU) (Ongoing)



- >90% reduction in volume
- >80% reduction in cost

Purpose:

Develop low cost, smaller and g-hardened IMUs for 90% of DoD tactical weapons

Product:

Demonstrate 20k-g, 1⁰/hr, 3cm³, \$1500 IMU with deeply integrated GPS for gun and tactical missile Common Guidance & Navigation Unit

Warfighter Payoff:

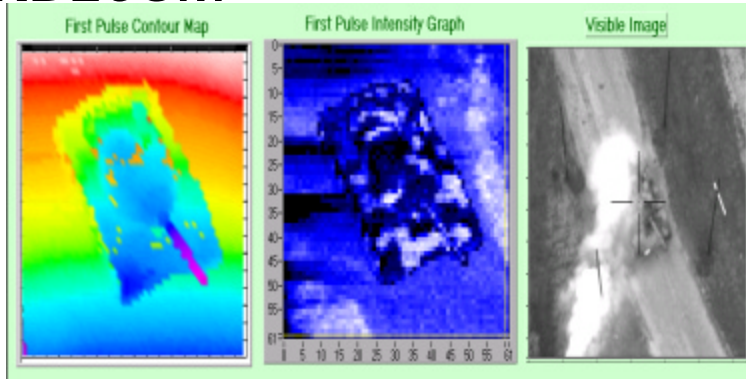
- Lower cost through economies of scale
- Gun hardened
- AJ GPS

Schedule

ACTIVITY \ FY	01	02	03	04	05	06
Consolidate IMU Requirements	█					
Devel Com Guidance ICD/Spec	█		5	5		7
Process Enhancements	█					
Electronics Integration	█					
Evaluate and Refine Enhanced Processes and Equipment		█				
Fab IMU Prototypes/Conduct MEMS IMU & DI-GPS/ISA Demos	P1	P2			P3	
IMU Qual & Test Bed Integ.		█				
DI GPS/ISA Development OPT 1			█			▲
DI GPS/ISA Qual & Test Integ.				█		▲



Automatic Target Recognition (Proposed)



Purpose:

Develop a common sensor package that can be integrated in future guided munitions (gun-launched & missile) and is capable of in theatre updates

Product:

Demonstrate capability to detect and identify specific targets after simulated in theatre update.

Schedule

Tasks	05	06	07	08	
• Match Tactical Surveillance assets	[Green bar]				
• Test tactical weapon link	[Green bar]				
• Transform surveillance knowledge	[Green bar]				
• Demonstrate terrain registration	[Green bar]				
• Performance assessment		[Green bar: TRL 4, TRL 5]		[Green bar: TRL 6]	

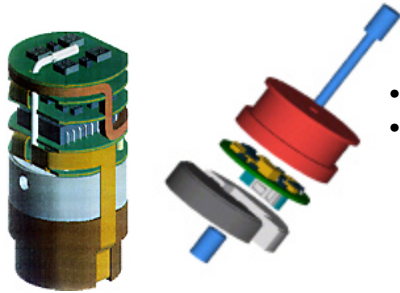
Warfighter Payoff:

- **Increased first round lethality**
- **Reduced collateral damage**
- **Recon assets remain covert**



Common Modular Fuzing for Advanced Munitions

(Proposed)



- 90% reduction in size
- 75% reduction in cost

Schedule

Tasks	FY04	FY05	FY06	FY07	FY08
Med Cal Common Modular Fuze	[Blue bar from FY04 to FY08]				
MEMS S&A/micro-firetrain	[Green bar from FY04 to FY07]				
Sensor integrated	[Green bar from FY05 to FY08]				
Large Cal Common Modular Fuzing	[Blue bar from FY04 to FY08]				
MEMS S&A	[Green bar from FY05 to FY08]				
Multipoint ESAD	[Green bar from FY04 to FY07]				
Sensor Integration	[Green bar from FY05 to FY08]				
Missile Common Modular Fuze	[Blue bar from FY04 to FY08]				
Environ Sensor	[Green bar from FY04 to FY07]				
Multipoint ESAD	[Green bar from FY04 to FY07]				
Integration	[Green bar from FY05 to FY08]				

Purpose:

Develop low cost, smaller and common MEMs based modular fuze for gun and missile munitions

Product:

Demonstrate common fuze modules for missile and gun fired munitions with target sensor and dual environment safety sensors

Warfighter Payoff:

- **Increased munition lethality with multi-point initiation and target selectability**
- **Increased safety and reliability**