



Ground Combat Vehicle Lethality

Gus Steenborg
Mounted Requirements
US Army Maneuver Center of Excellence



Bottom Line Up Front



Capabilities Development & Integration Directorate

“... we will ensure that our military is agile, flexible, and ready for the full range of contingencies ...”

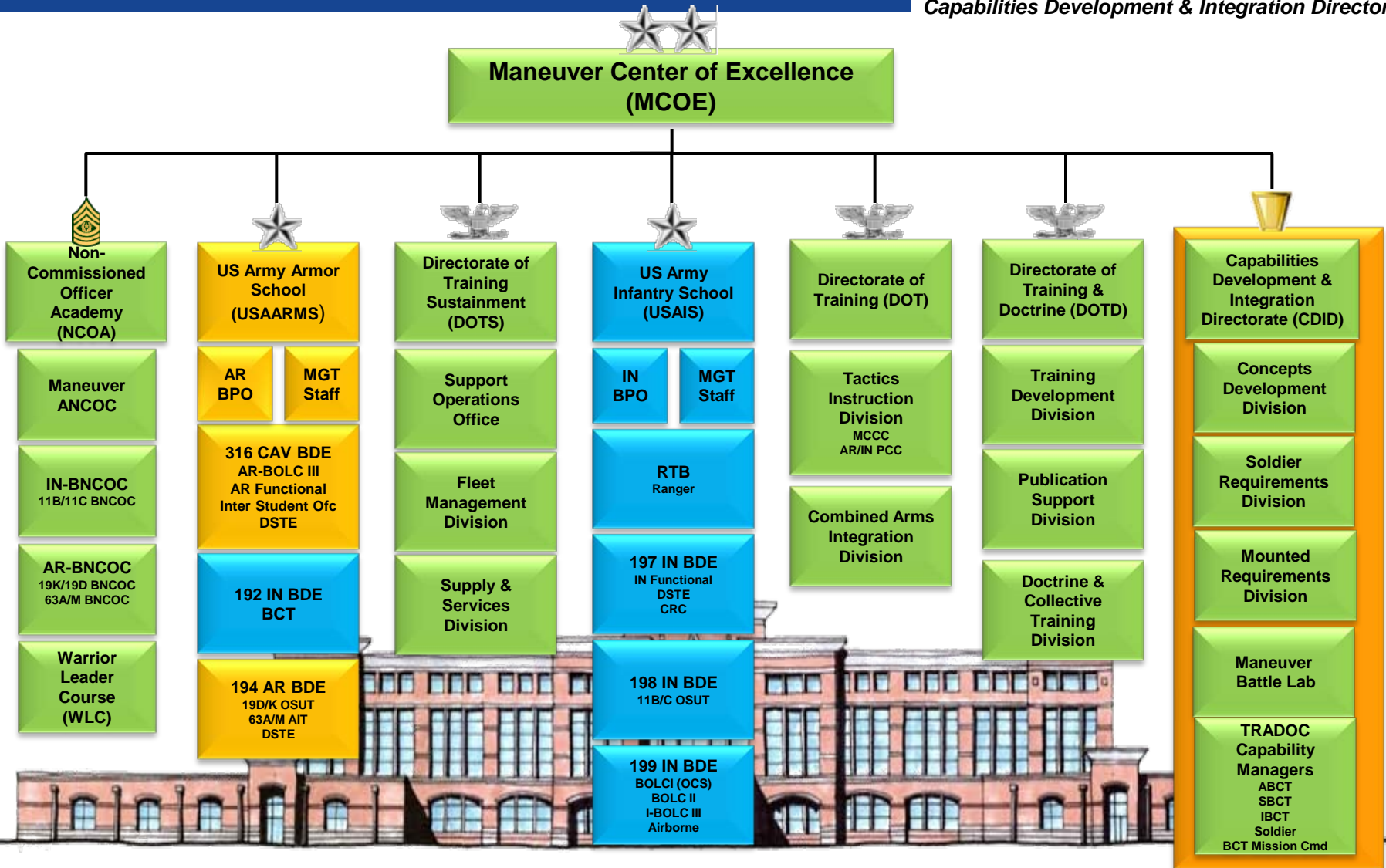
President Barak Obama
Defense Strategic Guidance
3 January 2012



US Army Maneuver Center



Capabilities Development & Integration Directorate



Maintain the battlefield primacy of our Soldiers and the formations in which they fight!



Mounted Requirements Portfolio



Capabilities Development & Integration Directorate

- Combat Vehicles
 - Ground Combat Vehicle (GCV)
 - Armored Multipurpose Vehicle (AMPV)
 - Abrams
 - Bradley
 - Stryker
- Tactical Ground Reconnaissance Sensors
- Large and Medium Caliber Lethality
- Mounted Soldier System
- Tactical Vehicles
 - Mine Resistant Ambush Protected (MRAP)
 - MRAP All Terrain Vehicle (MATV)
 - Joint Light Tactical Vehicle (JLTV)



Emerging Trends in the Operational Environment



Capabilities Development & Integration Directorate

Uncertainty

Location, Adversaries, Context, Duration



Increased Competition



Rising powers, organized militias, technology as a leveler

Hybrid Threats



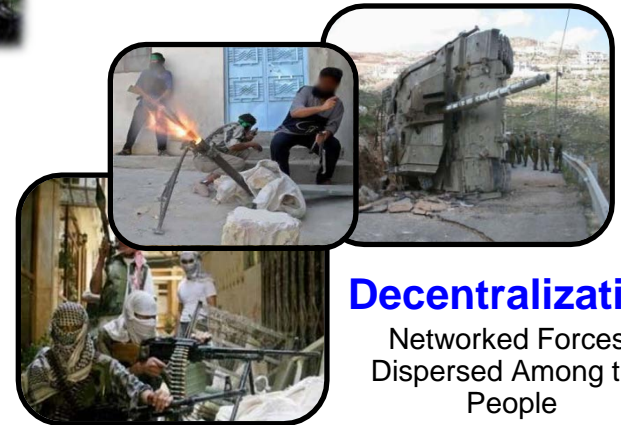
Dynamic combinations of conventional, irregular, terrorist and criminal capabilities

Pace of Change



Exponential, not Arithmetic

Decentralization



Networked Forces, Dispersed Among the People

Military Power in the 21st Century will be defined by our ability to **adapt**



Combat Vehicle Capabilities







Capabilities Development & Integration Directorate

- Shoot
- Move
- Communicate
- Survive
- Sustain
- Adapt



Capability Evolution

	WWI Approx. 1918-1919	WWII Approx. 1941-1946	Desert Storm Approx. 1990-1991	Full Spectrum 20XX
	 <p>FT-17</p> <p>900 US M1917 Tanks produced after WWI</p>	 <p>M4 Sherman</p> <p>50,000 produced in several variants</p>	 <p>M1A1 Abrams</p> <p>6,000 produced</p>	 <p>Future Tank</p> <p>Force Structure based</p>
Shoot	37mm (1MJ) Cannon	76mm (5 MJ) Cannon, 2 x .30 Cal; .50 Cal MG	120mm (10MJ) Cannon 2 x 7.62mm; .50 Cal MG	20+ MJ Main Weapon Lethal & Non Lethal
Move	42 hp Gasoline engine 5.5 mph 30 mile range	400-500 hp Gasoline engine 15 mph off-road 26 mph on-road 100 mile range	1500 hp Multi-fuel turbine engine 33 mph off-road 45 mph on-road 300 mile range	4+ MW Power Plant Exportable energy 45 mph off-road 70 mph on-road 96+ hour operations
Communicate	Semaphore	Radio Voice	Encrypted Radio Voice	Encrypted Multi-media Mission Command

Maintain the battlefield primacy of our Soldiers and the formations in which they fight!



Mounted Requirements Focus Areas



Capabilities Development & Integration Directorate

- Force Protection / Survivability
- Computation Capacity / C4 Systems
- Mobility
- Lethality
- Sensors
- Support Technology and Force Structure
- Robotics
- Power and Energy
- Soldier Platform Interface