**PROBLEM / OBJECTIVE**

- The majority of today’s fighting vehicles are legacy vehicles with insufficient underbody protection
  - To have sufficient protection, underbodies either become too heavy or consume space that is not available due to underbody accessories, exhaust, and drive train components, etc.
  - Fabrications from plate that meet volume requirements contain weld joints that present points of vulnerability
- The majority of today’s wide area munitions do not meet the DoD policy on cluster munitions
  - Current solutions for replacing noncompliant cluster munitions are expensive

**APPROACH / BENEFITS**

**Approach**

- Establish cast steel metallurgy to maximize strength and ductility for maximum protection and lethality
- Develop integrated computation based casting process and high fidelity performance simulations for the cast underbody protection system
- Implement lower hull direct integration technique to minimize vulnerability and reduce integration time
- Formulate net shape cast steel technology to increase manufacturing yield and reduce product cycle time
- Integrate the cast steel technology directly with cast steel industrial base to maximize high payoff potentials

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Expected Benefits and Warfighter Impact

- Defeat the combat vehicle underbody threats
- 20% cost reduction target thru lower hull underbody assembly enhancements
- Affordable cross-platform combat vehicle underbody protection
- 35% minimum cost reduction thru net shape cast munitions

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