



SURVIVABILITY



Future Combat Systems (FCS) Armor Development Army Technical Objective (ATO)

The FCS Armor Development ATO's mission is to provide the FCS Manned Ground Vehicle with lightweight, affordable and "manufacturable" armor protection against present and emerging threat systems. The resulting armor structure technologies will advance armor development for all future combat vehicles, including FCS.

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



Primary Focus

The FCS Armor Development ATO has three primary focus areas:

- Lightweight armor and mine kit development.
- Manufacturing processes development.
- Modeling and simulation (M&S) design tools development.



This effort leverages the Army Research Laboratory (ARL) armor technology base and manufacturing efforts to develop lightweight armor materiel manufacturing processes and provide lightweight, high-performance defeat mechanisms.



Challenges

TARDEC has the responsibility of maturing and integrating these armor/mine blast solutions onto the FCS platforms. To achieve these objectives, TARDEC has addressed the challenges for FCS and future combat vehicles by:

- Defeating increasingly complex emerging threats, as well as current threats, such as multiple hits and impulse loads, while also decreasing the weight of the armor solutions.
- Reducing processing times and materiel and manufacturing costs in the production of lightweight armor designs.
- Developing M&S that couples fragment, blast, structure and crew responses to cover emerging materials and threats to develop vehicles that are both survivable and lethal.
- Monitoring armor system health to increase survivability developing a robust, nondestructive evaluation capability to provide real-time feedback to the mission crew.



This program will culminate in the delivery of a comprehensive advanced armor solution to FCS threats with validated ballistic performance. It will be an effective, upgradeable, affordable and lightweight armor solution to meet emerging threats with direct applicability to FCS and crew survivability.