



Association of the United States Army  
Voice for the Army—Support for the Soldier

# CRUSADER

## Indispensable Solution



In the year 2030 when we look back we will see **CRUSADER** as having enabled the Army to transition to the Objective Force while minimizing risk to the Legacy Force.



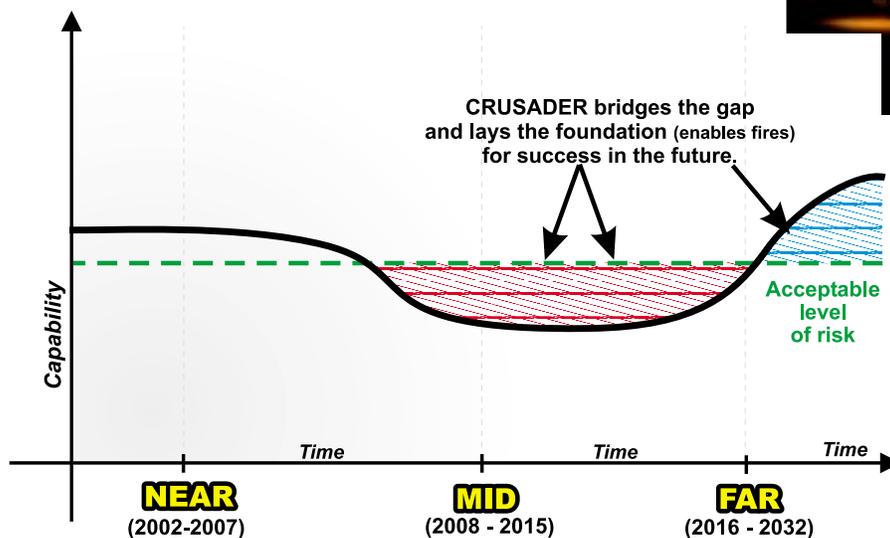
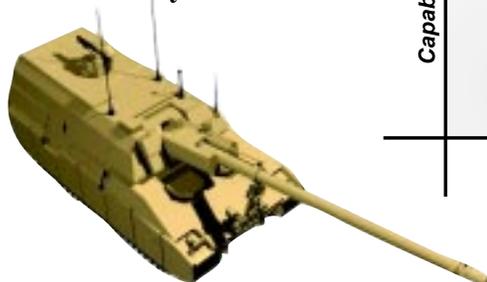
- ✓ Revolutionizing and changing the “way we fight”— doctrine, organizations, leader development
- ✓ “Skipping a generation”
- ✓ Placing a “thinking” person inside the cockpit who can shape the battlefield
- ✓ Developing enabling technologies and enabling industry to transition to the future combat system
- ✓ Taking “brute strength” out of the equation
- ✓ Complementing missile/standoff capability
- ✓ Providing strategic options



## CRUSADER enabling fires for the Objective Force

Providing a continuously available capability to engage large numbers of distributed targets with high volumes of precise, long-range and cost-effective fires.

One system can responsively mass fires on a single target or engage multiple targets simultaneously.



# CRUSADER revolutionizing

CRUSADER is a fully digitalized, open-architecture, stand-off attack system that revolutionizes fires on the network-centric battlespace.

CRUSADER can destroy a large number of small, distributed targets well beyond 40kms, versus the current approach of using artillery to merely neutralize large enemy formations at far shorter range. Furthermore, CRUSADER's information systems enable it to provide client-server fires when employed with Comanche, UAVs or other joint target-acquisition capabilities in sensor-to-shooter strike packages.

and changing the "way we fight"—doctrine, organizations, leader development.

- Shifts the decisive battle from line of sight to extended range with cost-effective, one-round/one-kill precision fires;
- Provides a dominant capability deployable with early-entry forces;
- Enables other systems to contribute their full potential to battle outcome.

## CRUSADER

has already "skipped a generation"

### Current Generation



M109

### Others' Next Generation

PzH 2000

AUF1

AS90



G6

2S19

K9

### Future Generation



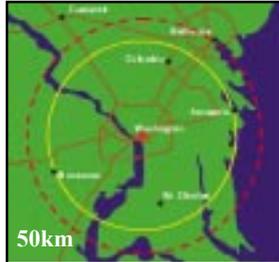
Crusader

- Minimal Crew
- Fully Automatic/Robotic
- 56-Caliber Continuous Firing Cannon
- Autonomous
- Full Situation Awareness
- Composite Materials
- Non-Ballistic Protection
- NBC Macro Protected Environment

This "suite" does not mitigate risk in the mid-term



automated rearm/refuel module



50km

## CRUSADER shaping the battlefield

Placing a "thinking" person inside the cockpit who can shape the battlefield.



## CRUSADER developing enabling technologies

and enabling industry to transition to the future combat system.

CRUSADER is a vital technology carrier for the future combat system. Approximately \$2 billion has been spent developing the integrated crew cockpit, robotic munitions handling, projectile tracking radars, advanced composites, and various protection and susceptibility reduction technologies. CRUSADER's functionality is driven by nearly 2 million lines of operating code that also drives embedded and external training simulators. CRUSADER has fired over 1,500 rounds at Yuma, AZ over the last year—already demonstrating leap-ahead advances in laser ignition, modular propellants, robotic loading, sustained rates of fire, and over 26,000 cycles without failure.

- Unprecedented firepower
- Aircraft-like crew cockpit
- Unmatched soldier survivability
- Unparalleled mobility
- World's only automated firing and resupply

**Without CRUSADER, more howitzers, tanks, fighting vehicles and personnel must be added back to the force at a multibillion dollar cost.**

## CRUSADER taking "brute strength" out of the equation

CRUSADER has three times the effectiveness of Paladin, with a 33% reduction in manpower for each system—6 soldiers do more than it takes 27 to accomplish today. It is a key system behind the Army's force redesign that cuts 25% of the combat platforms, while still covering two and one-half times the battlespace.



## CRUSADER

complementing missile/standoff capability

CRUSADER delivers precision, low-cost munitions in all weather that are tracked and guided from launch to impact. These munitions have small footprints that minimize collateral damage. Such a capability is critical for attacking air defenses, destroying fleeting targets, or engaging forces in urban terrain.

Rocket and missile systems offer great range, but despite technological advances, lack of responsiveness and capacity to engage (extended downtime before reloading), offer few munitions, require significant logistics and cost, and risk collateral damage from their relatively large effects dispersion.



- Provides 24-hour all-weather fires
- Makes fires available in seconds, never off station
- Supports offensive operations
- Provides fires for total force

providing strategic options **CRUSADER**

- **Capability packages tailored to the operational need**
- **Ammunition and fuel resupply modules transportable by C-130**



The Army has greatly reduced the weight of CRUSADER to enhance mobility and deployability with two howitzers, or a howitzer and resupply vehicle pair being airlifted in one C-17 sortie. A package of only 4 CRUSADERS can make a real full spectrum difference.

CRUSADER ammunition and fuel have also been packaged in C-130-deployable modules that interface with palletized loading system (PLS) trucks to enable completely automated resupply in 10 minutes. This approach allows CRUSADER to be organized essentially without in-theater tail using anticipatory logistics—the key requirement

for transitioning from nonlinear to nodal concepts of operations. The advanced crew cockpit also provides a shirtsleeve environment and ballistic sanctuary, enabling the crew to continue fighting on a WMD battlefield, while robotic systems conduct material handling, resupply and weapon functions.

— **CRUSADER Enables Fires for the Objective Force** —

**SUMMARY** **CRUSADER: Enabling Fires for the Objective Force**

CRUSADER will provide the Army combat overmatch and dominance across the full spectrum of missions with technologies that have yet to be integrated into ground combat vehicles anywhere in the world, and it will do this with fewer systems, less logistics, and fewer people. Our nation and the soldiers it sends into battle deserve the finest systems with which to fight. We owe them CRUSADER now, in the Legacy Force, *and* in the Objective Force.

**NETWORKED**

Links ISR, C<sup>2</sup>, fires and logistics in real time



**RESPONSIVE**

Provides fully integrated, scalable fires—on demand



**DECENTRALIZED**

Applies overmatching firepower more dynamically

Enables rapid maneuver, executes distributed operations, and achieves greater survivability

**AGILE**

## ✔ **LETHAL**

Provides full range of effects to destroy, isolate, fix and suppress—on demand

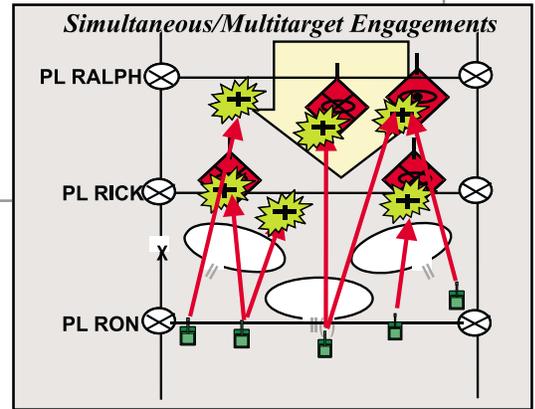
## ✔ **SURVIVABLE**

Provides continuous support in face of corresponding threat

## ✔ **SUSTAINABLE**

Minimizes logistical burdens for mission and sustainment

❑ **DEPLOYABLE** Transportable by C-130-type aircraft at less than or equal to 20T



Only lack of C-130 transportability keeps **CRUSADER** from Objective Force; however, **2 CRUSADERS = one C-17 sortie**



# TRANSFORMATION . . . Objective Force fires

**Crusader**

**Future Combat Vehicle**

"One-Shot/One-Kill"  
40-50+ Km

"Multipurpose/Precision Point Target Defeat"  
15-25+ Km

"Shaping the Line-of-Sight Fight"  
0-15 Km

**CRUSADER . . . Bridge to the Objective Force**