

# Excalibur



**XM982**



# Excalibur: Fact or Fiction?



## FACT

- 155mm GPS-guided, Precision munition
- Fire and Forget
- All weather
- Unitary Warhead
- Optimized for urban/complex terrain

## FICTION

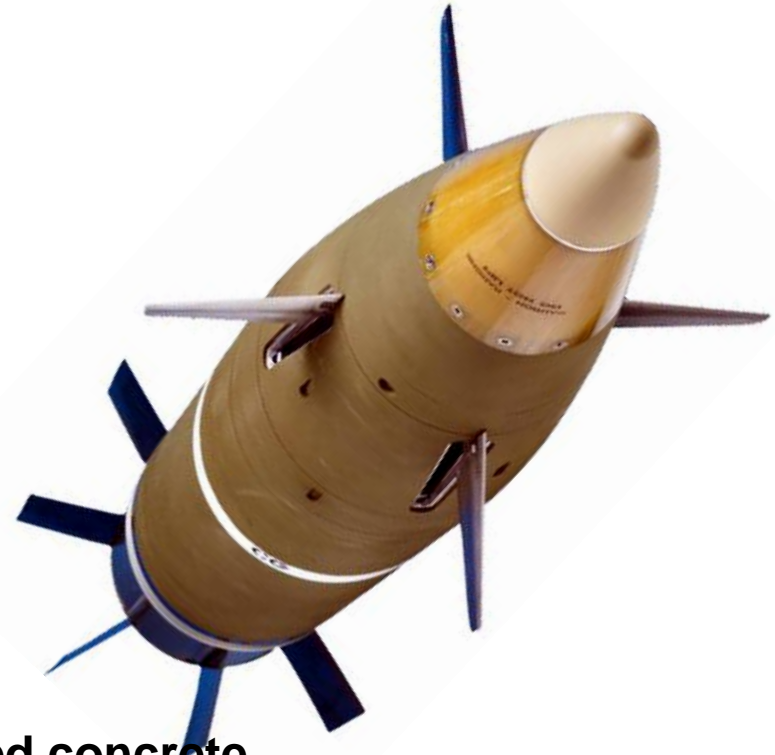
- Not a replacement for Copperhead
- Not pin-point accurate; no laser designation
- Not a “guided missile”
- Not a tank killer



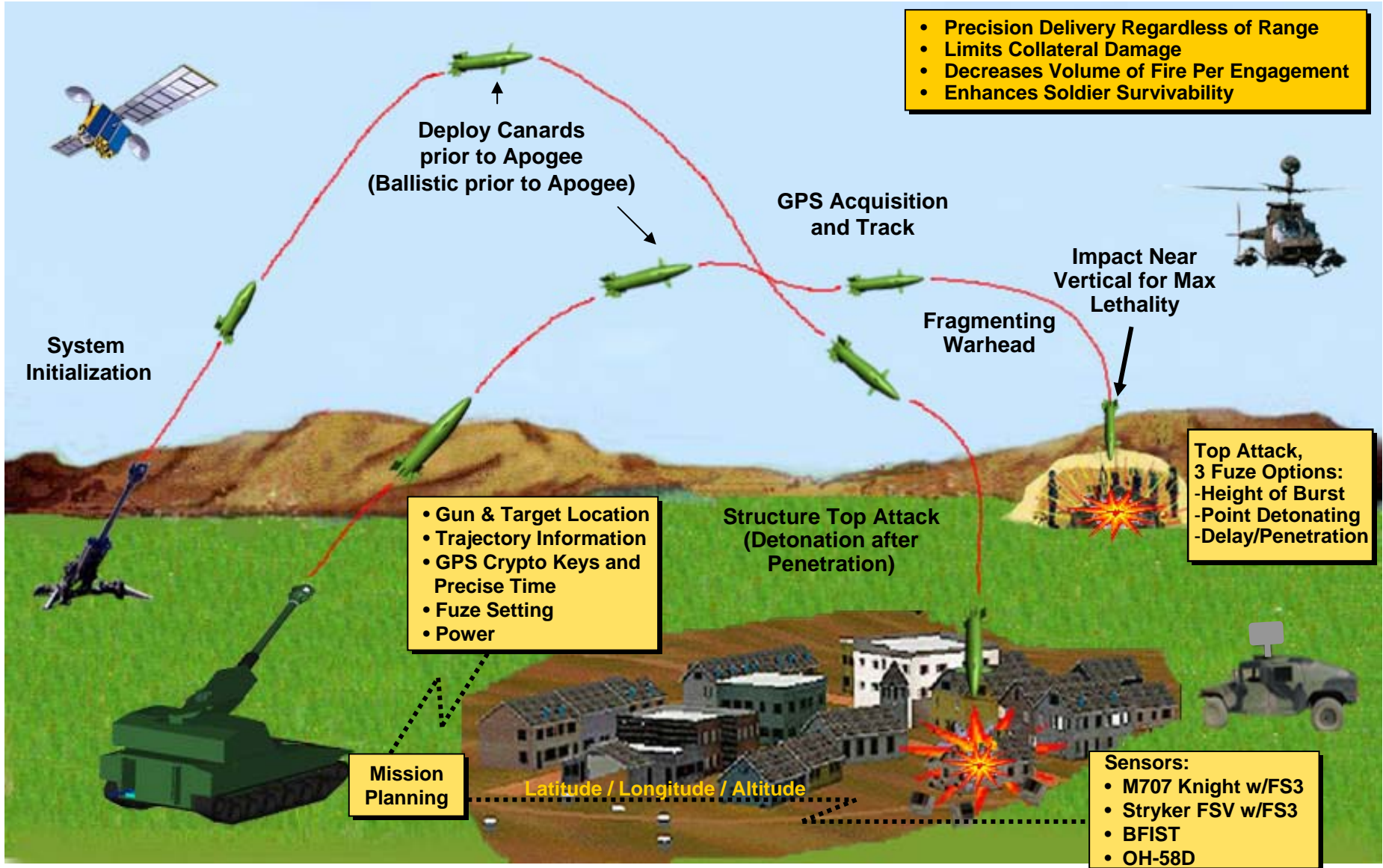
# Basic Characteristics & Capabilities



- **Range**
  - 7.5 km min range
  - Early fielding, 24km
- **Always a high angle mission**
- **Near vertical terminal angle**
  - Approximately 80-85 degrees
- **10m CEP at all ranges**
- **30m Safe Arm Distance**
- **GPS guided, IMU backup**
- **3 Fuze options:**
  - PD
  - Delay – up to 8 inches of reinforced concrete
  - Proximity HOB
- **No manual fuze setting; must be set with Enhanced Portable Inductive Artillery Fuze Setter**



# Concept of Operations



- Precision Delivery Regardless of Range
- Limits Collateral Damage
- Decreases Volume of Fire Per Engagement
- Enhances Soldier Survivability

Deploy Canards prior to Apogee (Ballistic prior to Apogee)

GPS Acquisition and Track

Fragmenting Warhead

Impact Near Vertical for Max Lethality

- Gun & Target Location
- Trajectory Information
- GPS Crypto Keys and Precise Time
- Fuze Setting
- Power

Structure Top Attack (Detonation after Penetration)

- Top Attack, 3 Fuze Options:
- Height of Burst
  - Point Detonating
  - Delay/Penetration

Mission Planning

Latitude / Longitude / Altitude

- Sensors:
- M707 Knight w/FS3
  - Stryker FSV w/FS3
  - BFIST
  - OH-58D





# Excalibur Status



- Safety Qualification Testing Complete
- First Article Testing Complete
- Limited User Test (LUT) 7-17 Feb 07 at YPG
- Initially 65 rounds, then up to 500 over year of production.
- NET team to arrive in theater early May 07.

**UMR Projectiles delivered to theater Apr 07**



Reliability currently 91%



# Excalibur LUT Videos





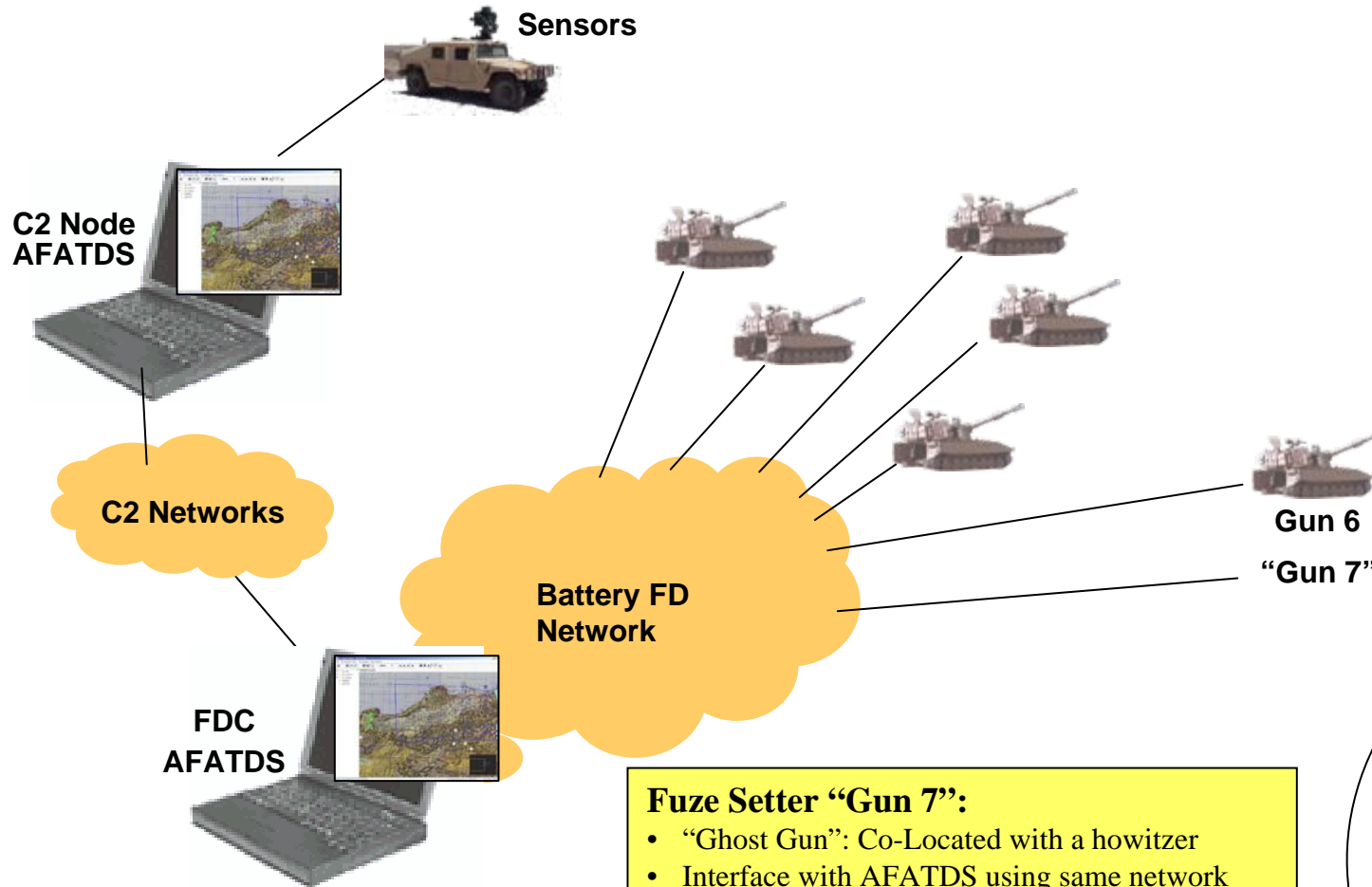
Back Up



# Portable Excalibur Fire Control System (PEFCS)







## FDC

- Examines AFATDS default BIP and re-computes mission with new BIP if necessary
- FDC operator maintains Excalibur ammo count on AFATDS for gun "7"

## Fuze Setter "Gun 7":

- "Ghost Gun": Co-Located with a howitzer
- Interface with AFATDS using same network and message format as Guns 1 thru 6
- Only Excalibur missions are sent to "Gun 7"
- PDA displays Charge/DF/QE to Paladin crew
- Section Chief looks at data from PDA and enters it into PDFCS/AFCS as a Manual Mission
- Section Chief uses PDA to send "Shot" to FDC

