



**Israel Military Industries Ltd. (IMI)**

**Heavy Ammunition Division**



# **APAM-MP-T 120mm , XM329**

(Anti-Personnel / Anti-Materiel – Multi Purpose Tank Round)

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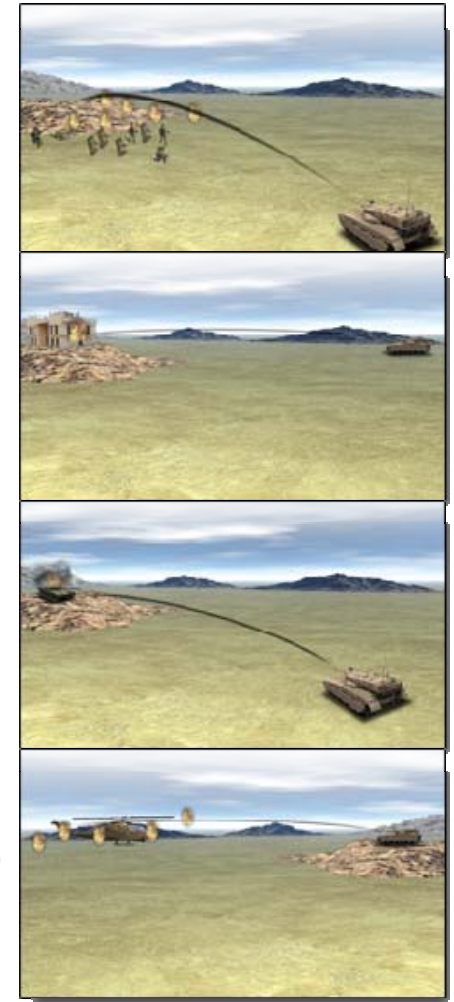
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## APAM 120 MISSION STATEMENT

To provide the best round for Main Battle Tanks (MBTs) against targets other than tanks:

- ❖ To provide rapid and lethal direct fires in support of assaulting infantry
- ❖ To incapacitate infantry, especially AT squads (Ambush)
- ❖ To penetrate bunkers and buildings with maximum resulting damage
- ❖ To breach walls, allowing passage of friendly troops
- ❖ To destroy light armored vehicles (LAV's)
- ❖ To be effective in Military Operation in Urban Terrain (MOUT)
- ❖ To deter/destroy helicopters (Self Defense)





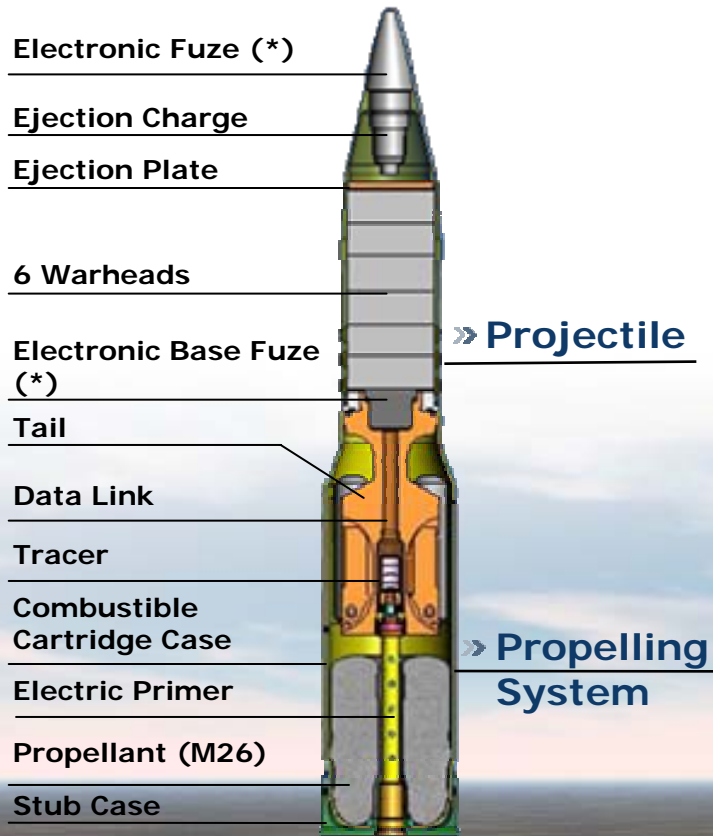
## APAM 120 XM329

- ❖ Multi – Purpose Tank round
- ❖ Used with all NATO 120 mm smooth-bore guns
- ❖ Compliant with:
  - ❖ STANAG 4385 & AEP 26
  - ❖ STANAG 4493
  - ❖ STANAG 4369 & AOP 22
  - ❖ STANAG 4157
  - ❖ MIL-STD-810
  - ❖ MIL-STD-1316 & 331
  - ❖ ITOP and others
  - ❖ IDF specifications and requirements





# APAM 120 Anti-Personnel/Anti-Materiel Round



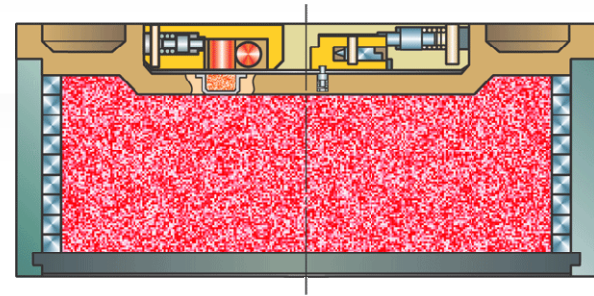
<b>Cartridge length</b>	<b>984 mm</b>
<b>Cartridge weight</b>	<b>27 Kg</b>
<b>Projectile weight</b>	<b>17 Kg</b>
<b>Projectile Length</b>	<b>750 mm</b>
<b>Muzzle velocity</b>	<b>900 m/sec</b>
<b>Chamber pressure</b>	<b>3,400 bar</b>
<b>Accuracy (SD)</b>	<b>0.3 mil</b>
<b>Temperature limit - Storage</b>	<b>- 40 ÷ 63 °c</b>
<b>Temperature limit - Firing</b>	<b>- 40 ÷ 52 °c</b>

(\*) – Programmable Electronic Fuze System



## APAM 120mm – Warhead

- ❖ Three independent safety mechanisms according MIL-STD-1316
  - ❖ centrifugal
  - ❖ set-back (pin)
  - ❖ body caging
- ❖ Neutralization pin for safety improvement
- ❖ Twin sliders for redundancy
- ❖ Reliability of operation > 97% (warhead)
- ❖ Hazardous duds < 0.1%
- ❖ Designed for optimal fragmentation performance and high lethality





## APAM 120 Modes of Operation

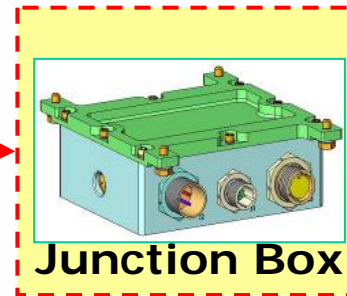
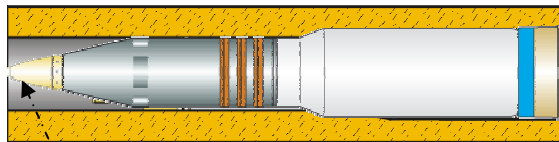
- 1) Ejection of 6 warheads at the set range -
    - ❖ Anti - Personnel [AP]
    - ❖ Anti Helicopter [AH]
  - 2) Impact W/Delay [Delay = f (range)]
  - 3) Impact - Super Quick [S.Q.]
  - 4) Air-burst at the set range [unitary warhead]
- ❖ "Extra" features –
- ❖ Air-Burst functioning as Back-up to Ejection Mode
  - ❖ Grazing functioning
  - ❖ Impact as default set





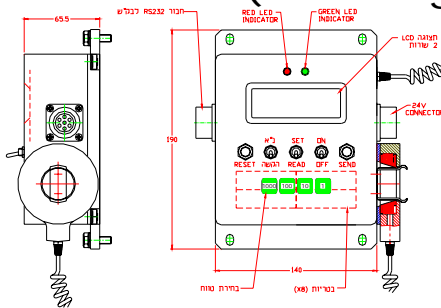
# APAM 120 Ammunition Data Link/Fuze Setting Round in Gun

120mm smoothbore NATO gun



Trigger

Inductive Setting -  
Fuze Setter (in emergency)

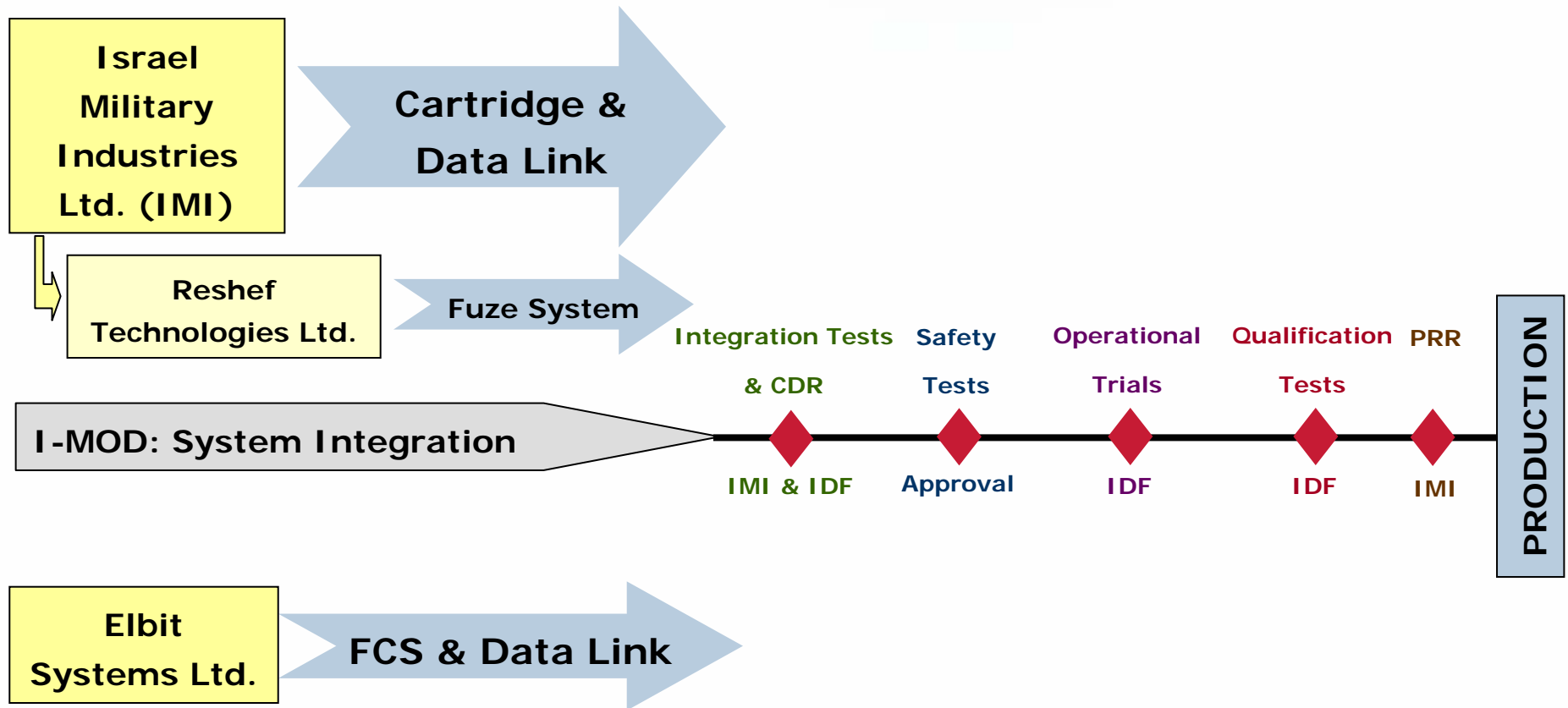


## ❖ FCS (Bi-Directional Data Link)

- ❖ Round ID –  
Type, Muzzle Velocity, Temp.
- ❖ Talk forward (Data Link to Round in Gun) –  
Mode of operation, Range, Power,  
Continuous Programming up date
- ❖ Talk-back message (from the Round) -  
Data Linked, Errors.



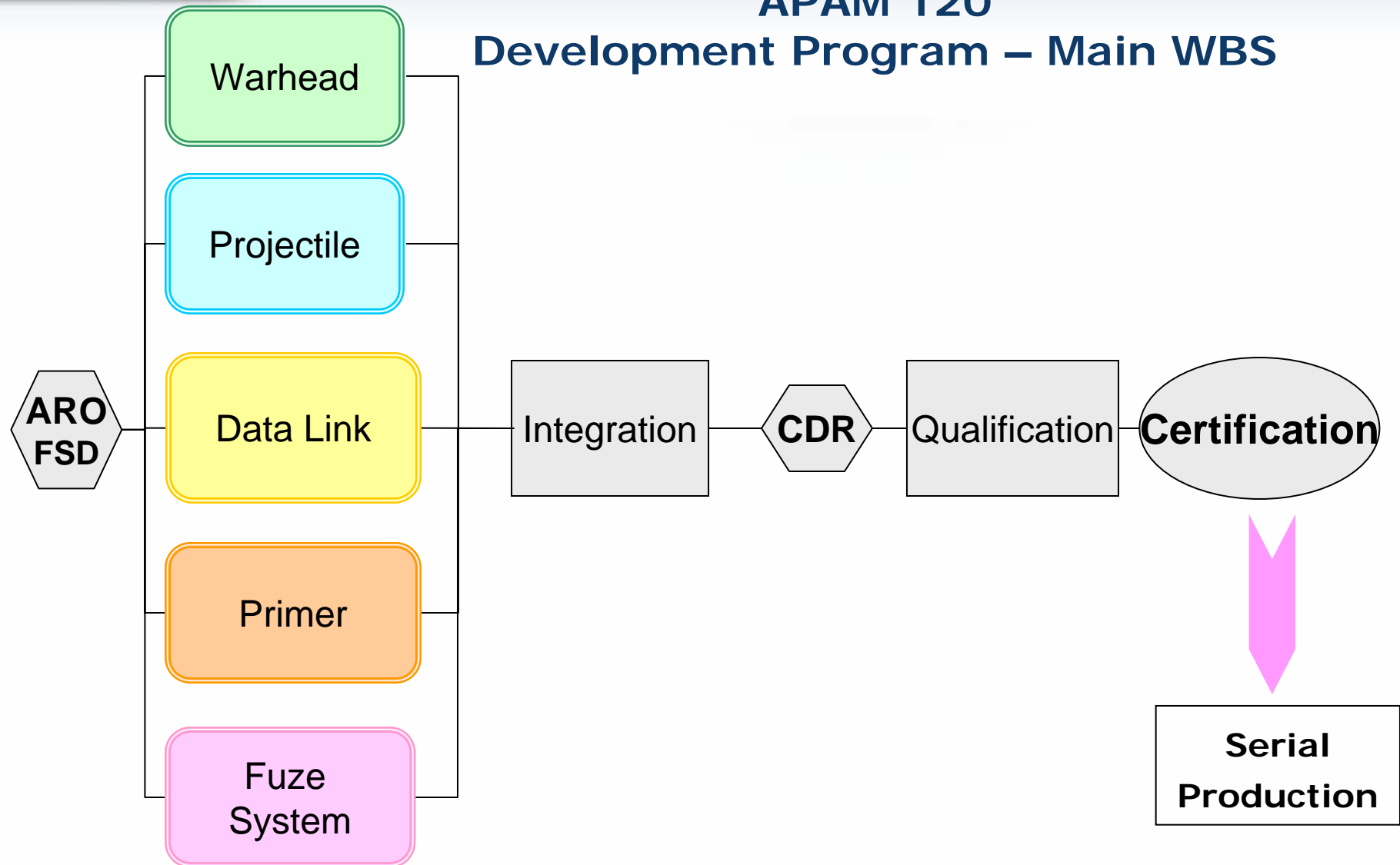
# Program Integration Management Chart & Main Milestones







## APAM 120 Development Program – Main WBS





## APAM – AP mode on the Battlefield





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## APAM 120

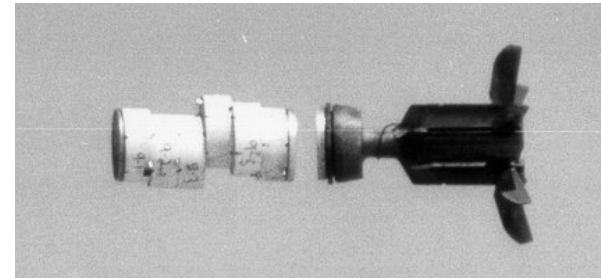
### High Stability at Long Ranges – Excellent Accuracy



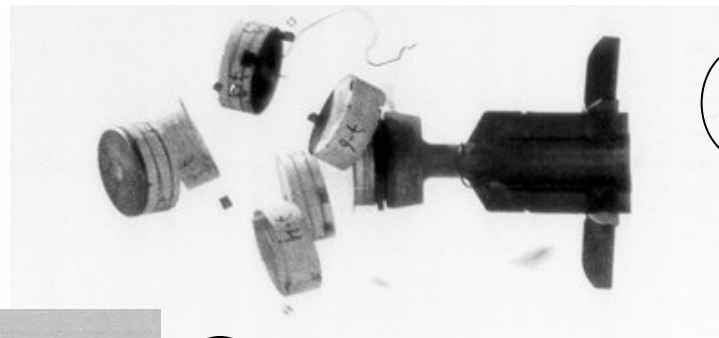


# APAM 120

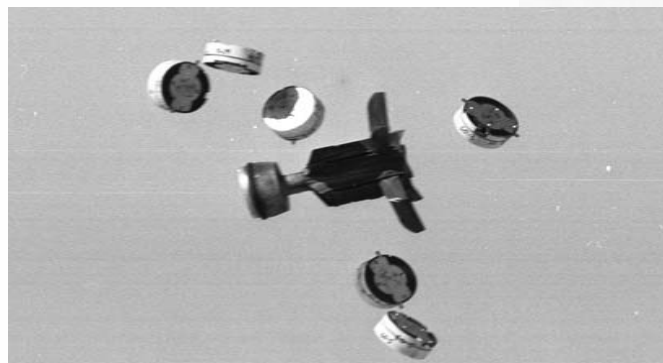
## Warhead Separation and radial dispersion



1



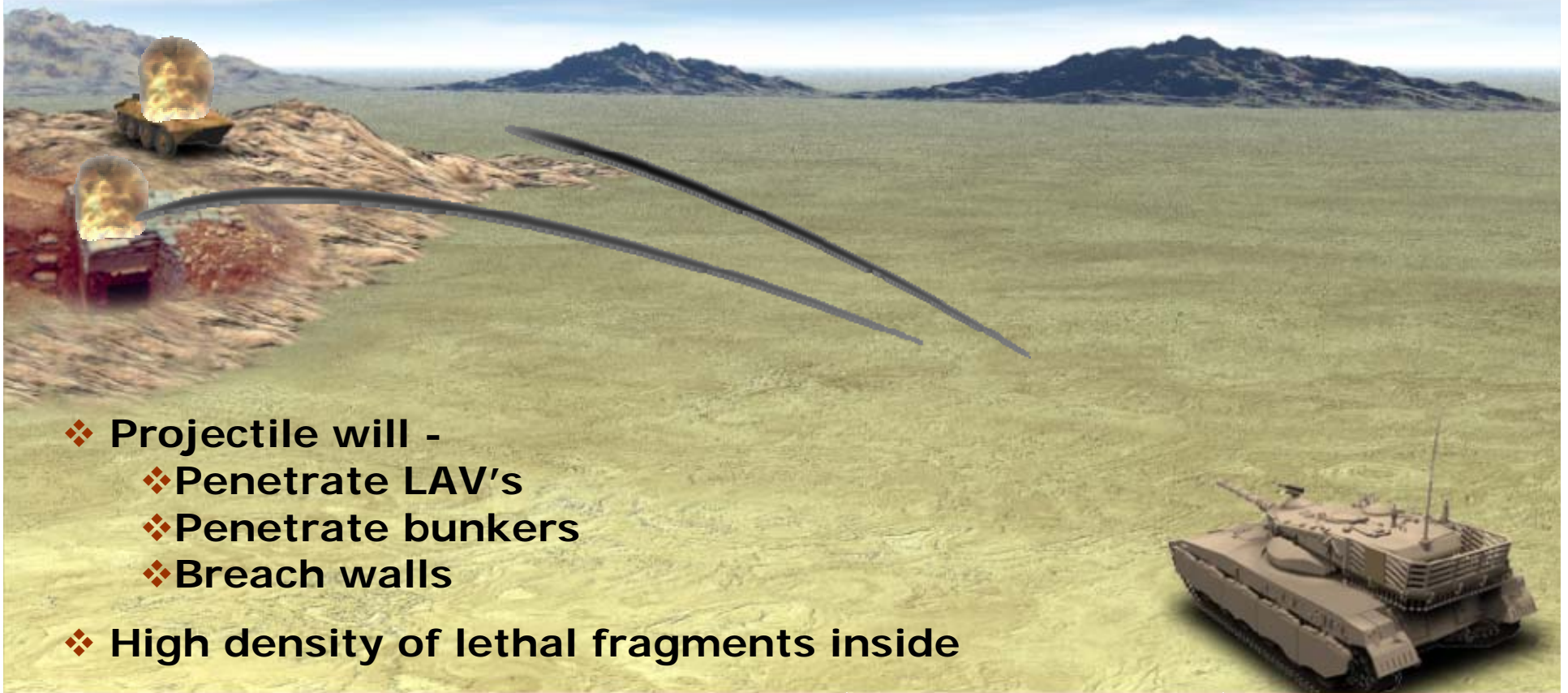
2



3



## AM MODE (IMPACT)

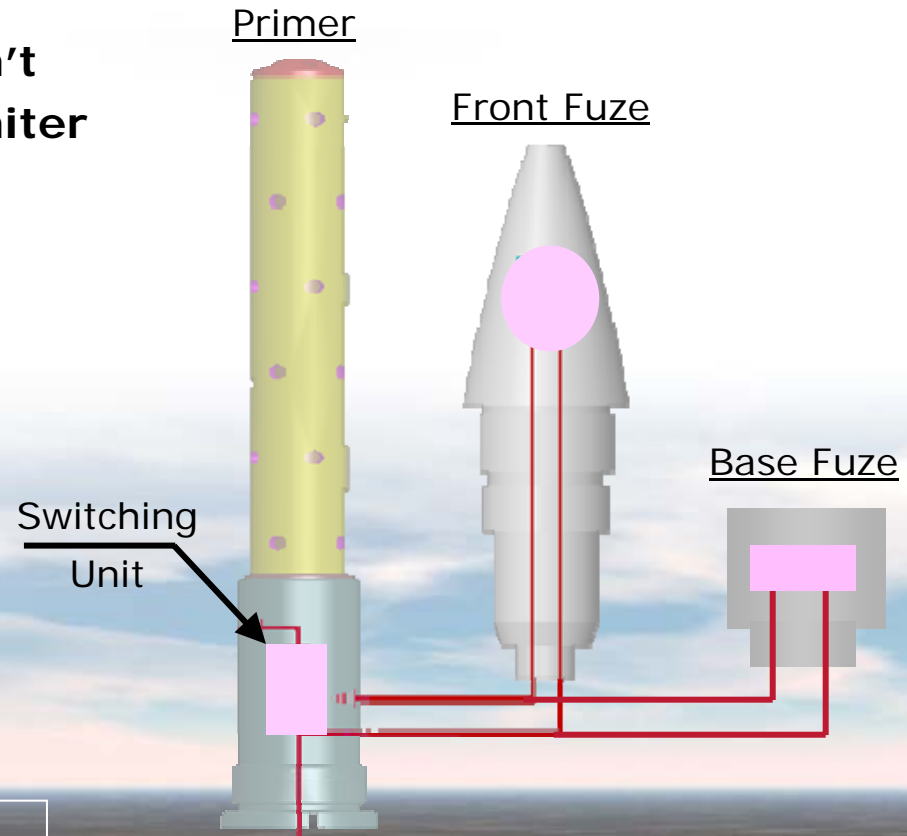


- ❖ Projectile will -
  - ❖ Penetrate LAV's
  - ❖ Penetrate bunkers
  - ❖ Breach walls
- ❖ High density of lethal fragments inside



## APAM 120 Primer and Ammunition Data Link

- ❖ The Data Link current doesn't pass through the primer igniter
- ❖ MIL-STD 1512
- ❖ MIL-I-23659C
- ❖ All Fire > 2.1A
- ❖ No Fire < 1.0A
- ❖ Safety: ∞ db



No need to change/modify  
the Breech Block



# APAM 120

## Special Firing Box & Data Setting Used During FSD



- ❖ Data Link or
- ❖ Inductive settings



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# APAM

UPGRADE YOUR FIRE POWER



**THE AMMUNITION OF TOMORROW  
TODAY FROM IMI**