

Active Protection for Armored Vehicles Land Warfare Force Multiplayer

Defense Aid Suite – A multiplexer in Force Maneuvering



Col. (R) Didi Benyoash

08.09.2011

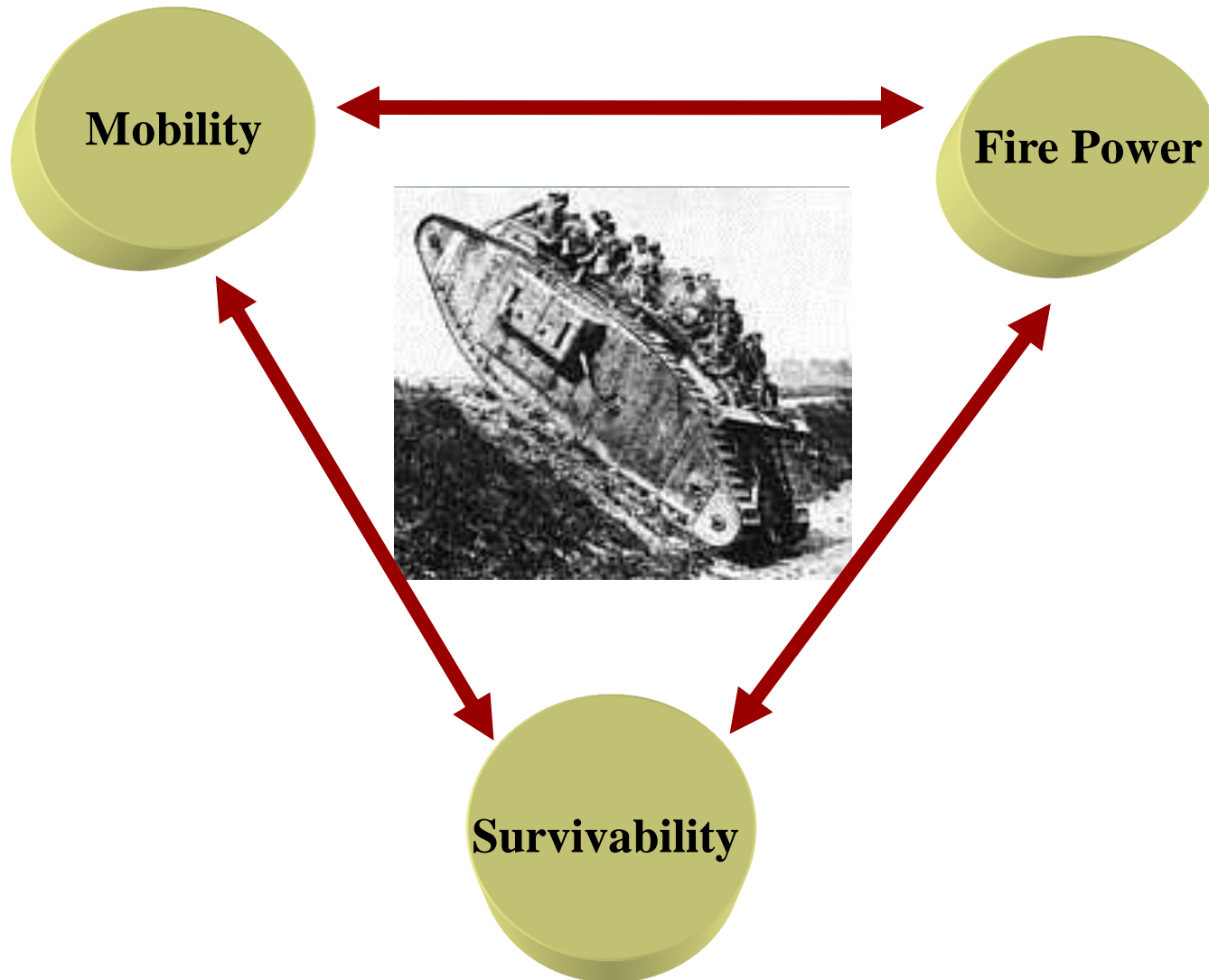


CONTENT

- ❑ **Background and the Operational Problem**
- ❑ **Stiff Active Defense as a Solution for the Operational Problem**
- ❑ **Active Defense as a solution for the Operational Problem**



Armored Vehicle Design: the Balance Concept





AAV7 in Iraq – Passive Protection

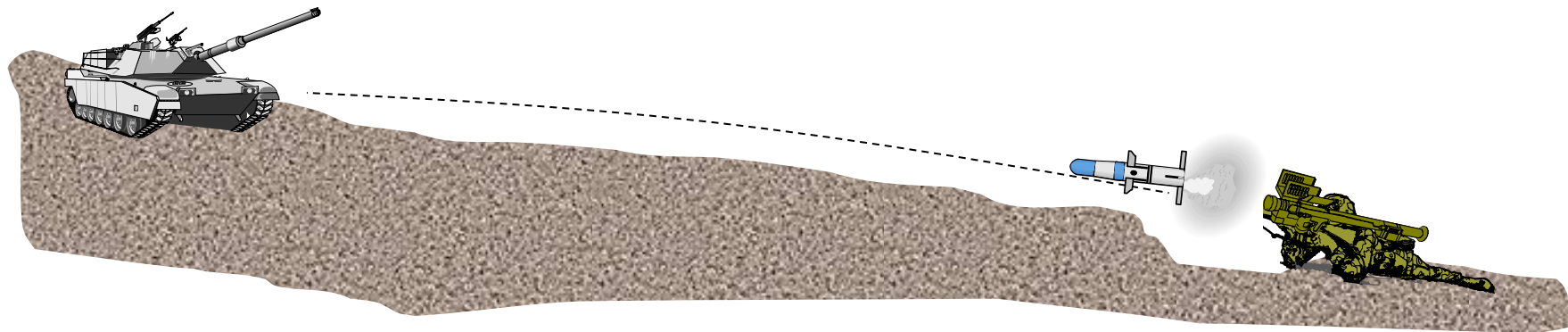




Bradley AIFV in Iraq and Afghanistan – Reactive Armor



The Operational Problem: Armored Vehicles Vs Anti-Tank Threat



The Defender Characteristics

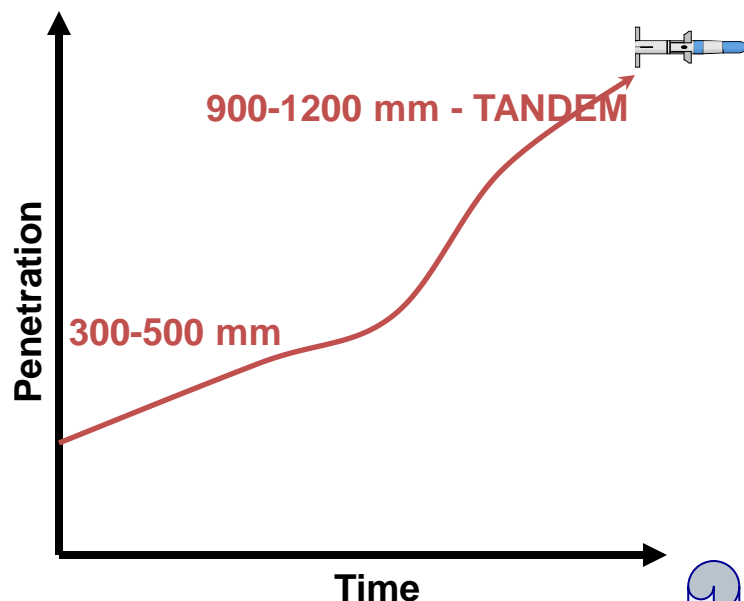
- ☐ Relative Complicated Operation (crew)
- ☐ Large Signature
- ☐ Lethal Weapon
- ☐ Relative High Cost
- ☐ Complete Perimeter Protection - Complicated

60

Aggressor Characteristics

- ☐ Simple, Agile Operation (single soldier)
- ☐ Low Signature
- ☐ Lethal Weapon
- ☐ Low Cost = Wide Dispersion
- ☐ 360 degrees Attack Potential

The Operational: AT threat development



Increasing gap
between protection
and threat as seen
in wars in 1973,
1982 and 2006

Massive grow in AT threat



☐ TANDEM – 1200 mm Penetration



☐ Over 80% hit Probability



☐ Effective Range – 100 – 8000 m



☐ Immunity – Beam Rider and **Laser spot homing**



☐ Low Signature – **Single Soldier / Crew**



☐ Wide Dispersion – **States, Terror organizations, Citizens**

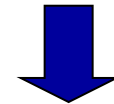
The Operational Problem: Defened by the traditional protection

Threat's Characteristics

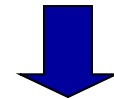
- ☐ Long range
- ☐ High hit probability
- ☐ High penetratio
- ☐ Launcher low
- ☐ Advance night capabilities
- ☐ 360 degrees threat

**The peak
of the vehicle
carrying ability**

Passive/Reactive armor



Reduces tank's mobility



Automotive
improvements

The Problem: Threat's Coping Priorities

First Priority – Rockets and AT Missiles

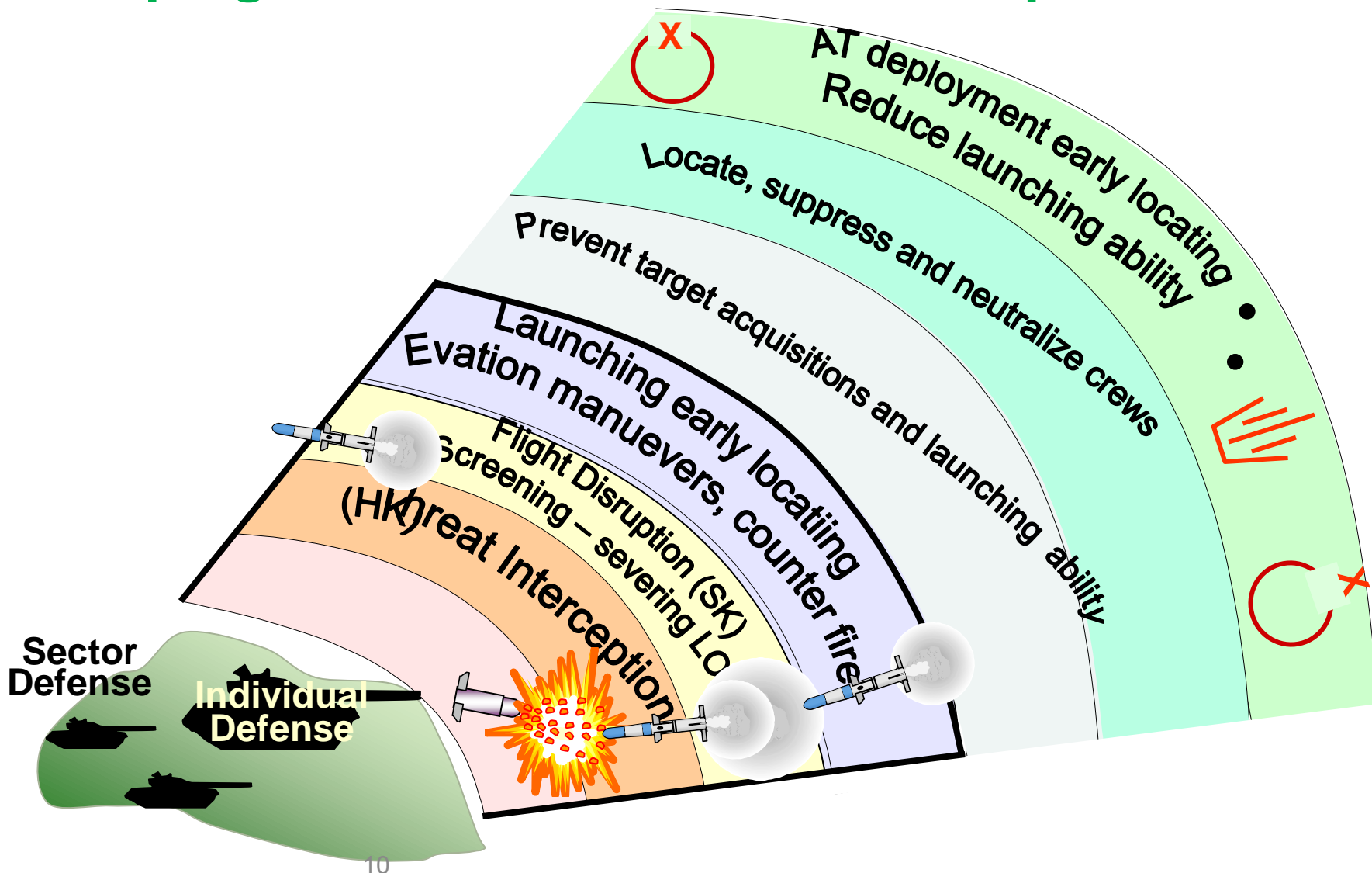
- ☐ Low signature - Difficult / Impossible to locate the crew
- Aggressor advantage - surprise

- ☐ Peripheral threat
- ☐ Operational capabilities- Ranges, Accuracy, Penetration, All directions

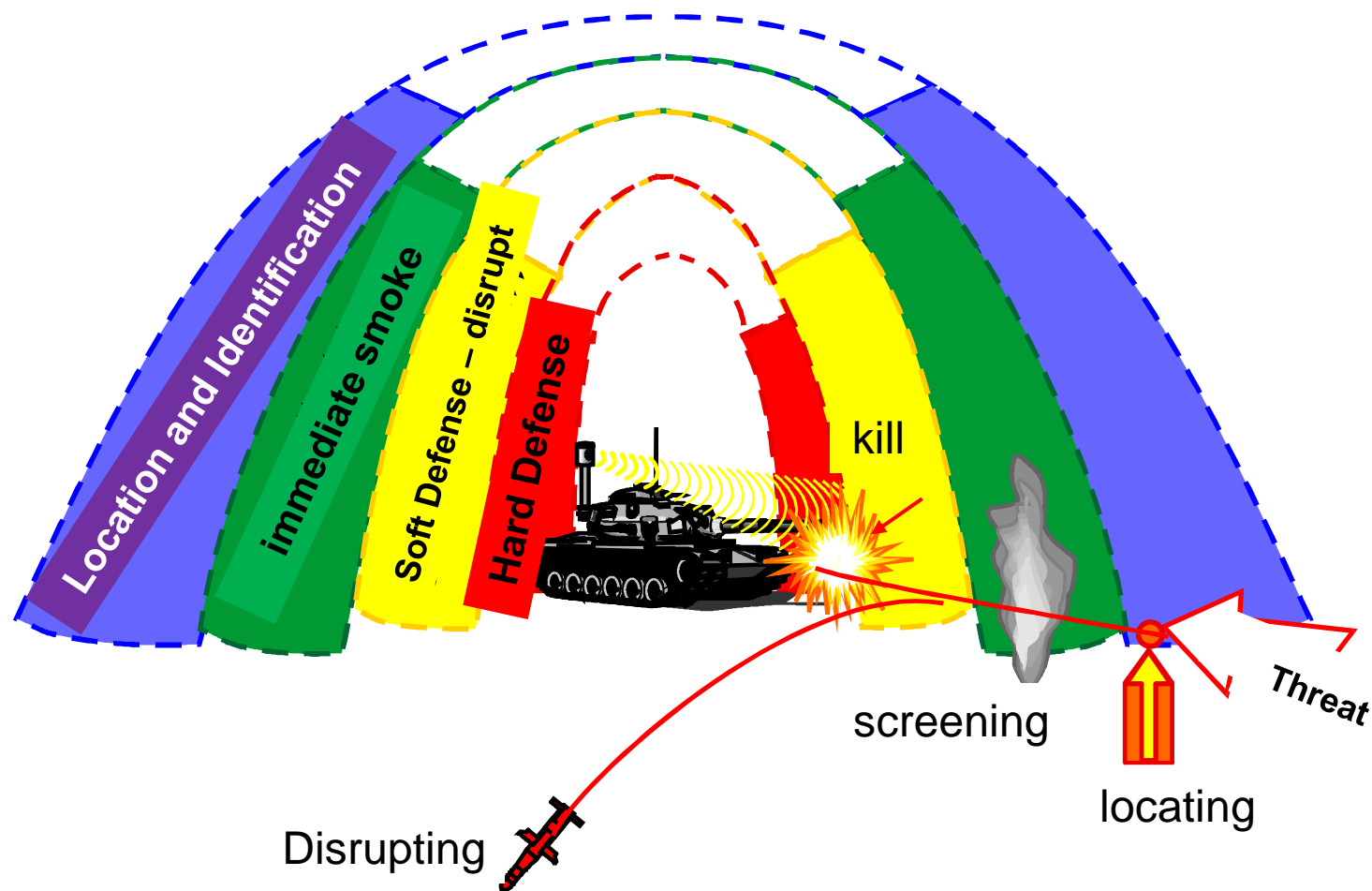
Second Priority – Tank's Missiles

- ☐ Early location potential
- ☐ Tank unit has means and capabilities to deal with enemy tanks
- ☐ Frontal battle in most cases

Coping with AT Threat – the Concept



Multi-Layers Active Defense



Trophy



The first and only battle proven active defense





First operational company in training





March 1st – Operational kill!!!





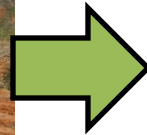
Active defense = power multiplier



Increases
vehicle
survivability



Increases unit
survivability



Improve company mission
accomplishment chances



Improve Btn
and Bde
mission
accomplishment
chances

- ❑ Expands unit's operational life in the battlefield (the number of AT engagements)
- ❑ Fire source early warning to company and battalion
- ❑ More commander's daring space
- ❑ Freedom of maneuver



Thank You!!