WAY AHEAD FOR MBT’s

6/11/2024

TUGRUL GAZI APA
Program Manager – Tank & Bridging Systems

Areas of Responsibility

- ALTAY MBT – Serial Production
- MBT Modernization Projects
- Active Protection Systems
- Bridging Systems
- Support International Cooperation

Do tanks still have a place in modern warfare?

Is the end of the battle tank in sight in the conflict in Ukraine?

About Fabrice Wolf APRIL 25TH

THE TANK IS NOT OBSOLETE, AND OTHER OBSERVATIONS ABOUT THE FUTURE OF COMBAT

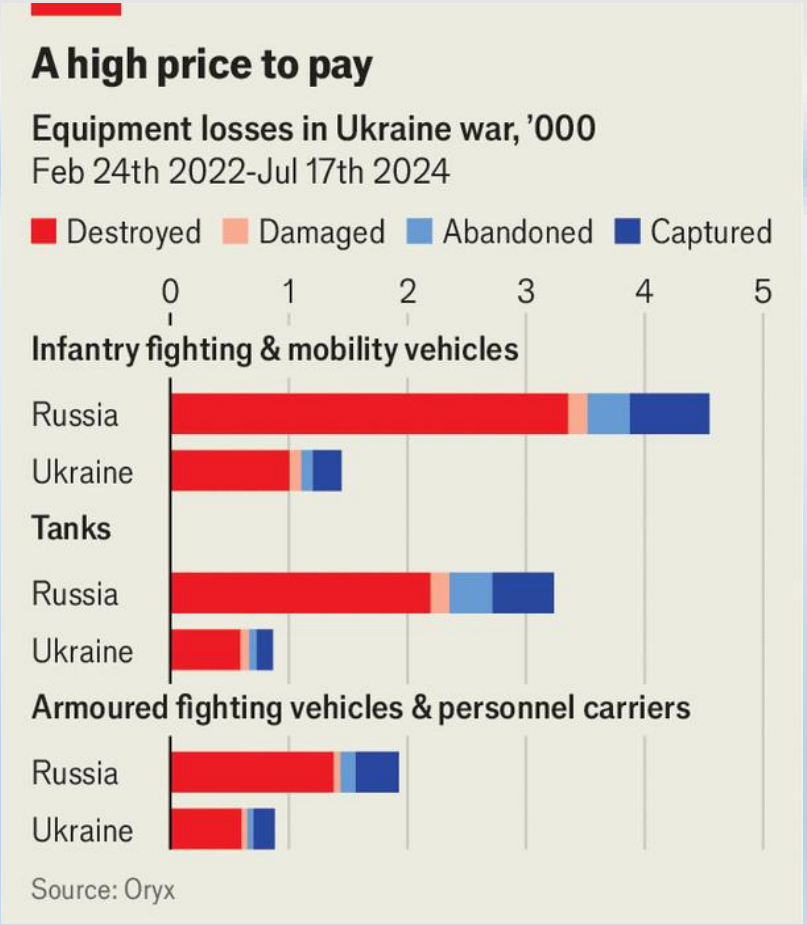
ROB LEE SEPTEMBER 6, 2022

End of the Tank Era?

March 16, 2022 by Brian Wang

The Tank is Dead ... Long Live the Tank

Equipment Losses



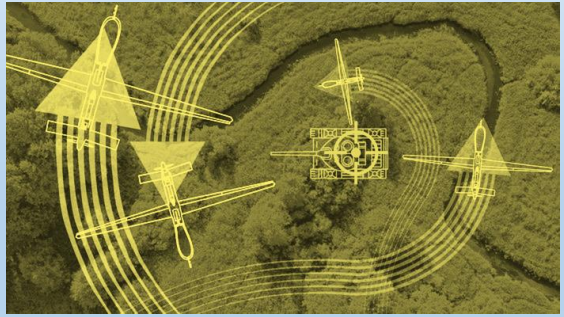
Tank Hunters

- Precision-guided munitions fired from long range
- Anti-tank Helicopter
- Fixed Wing Attack
- UAV's
- Portable AT systems fired from short-range

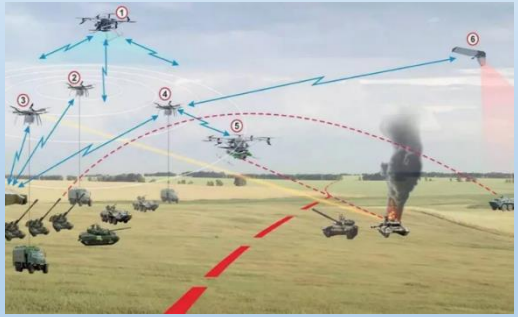
Battlefield Gone Under Metamorphosis

Asymmetric warfare

Urban Warfare



Drones



Network Centric Warfare

How to Encounter the Threats? Adding More Armor?

Design Options Triangle

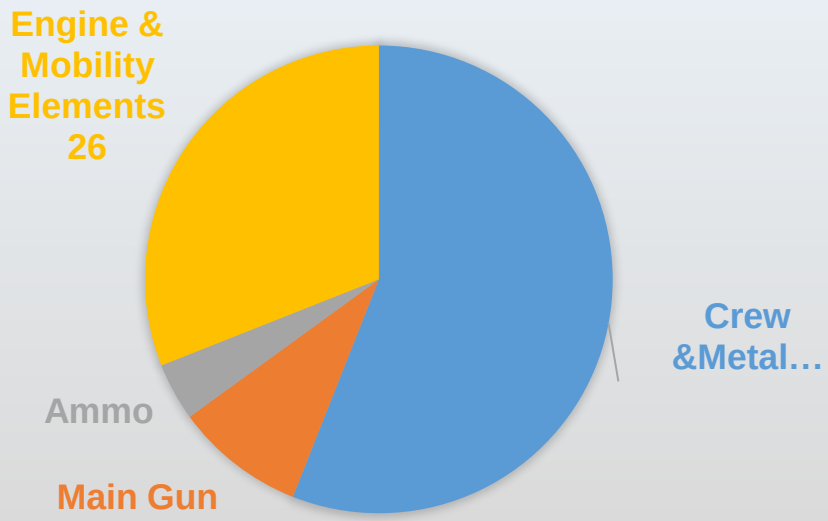
Payload

Mobility

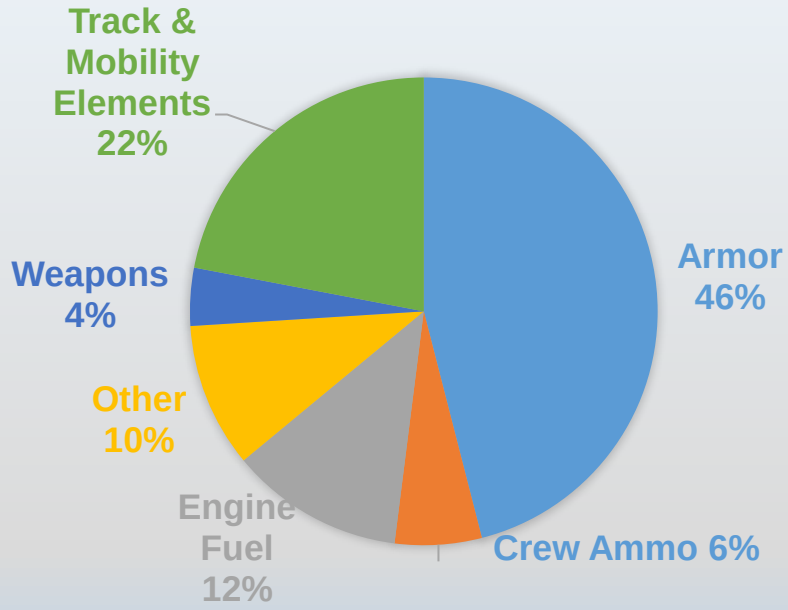
Armor Protection

MBT Volume / Weight Analysis

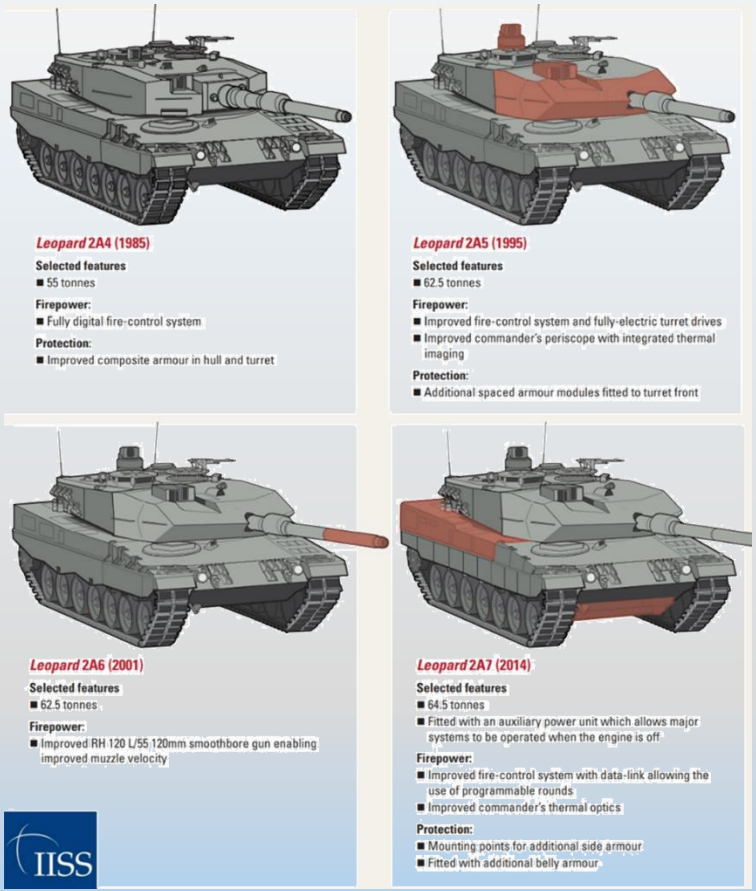
DISTRIBUTION OF VOLUME MBTS

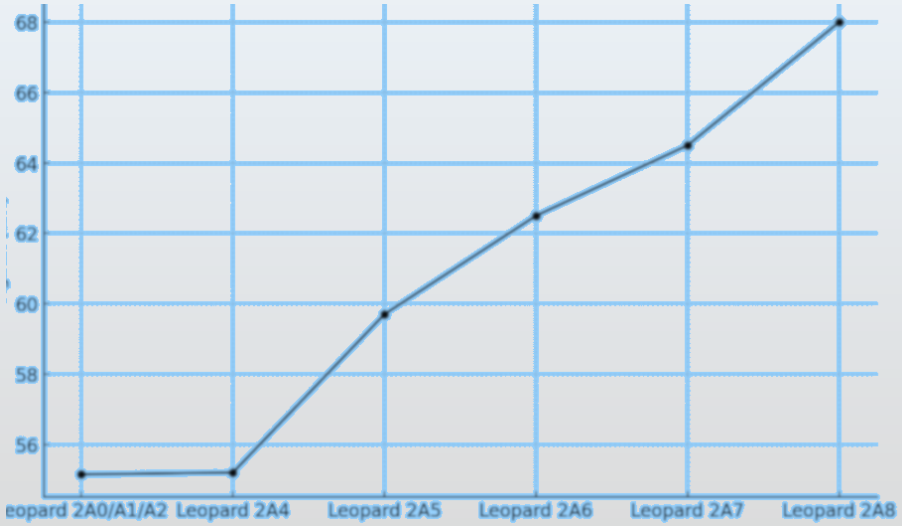


DISTRIBUTION OF WEIGHT MBTS

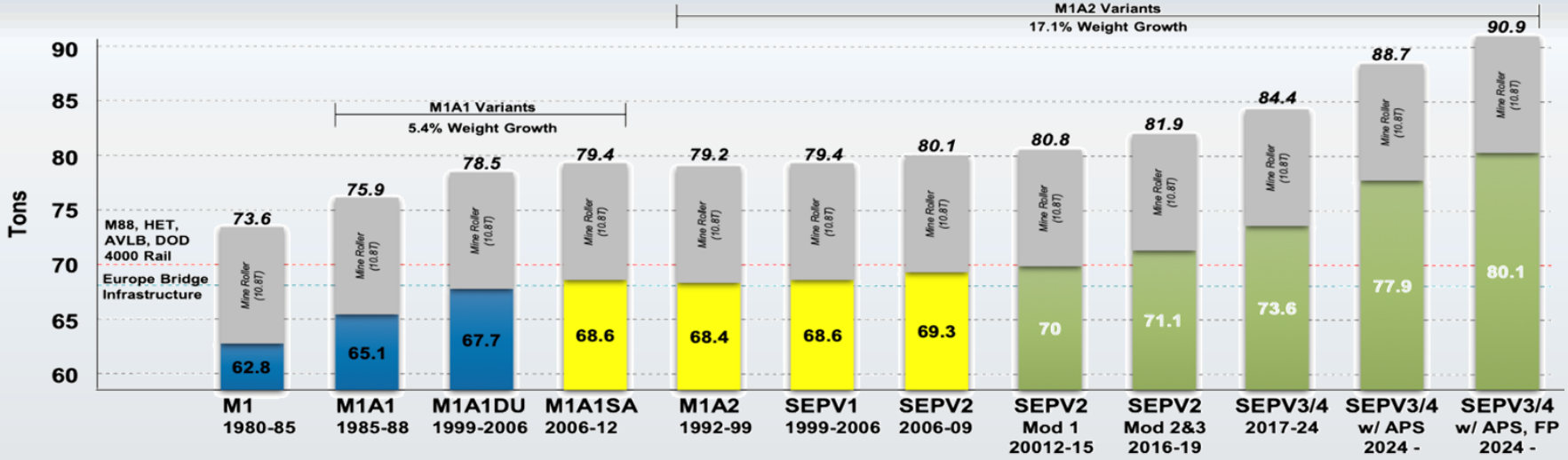


Weight Increase - Leopard Tanks





Weight Increase - American Tanks



Weight Problems (More …)

Decreased Mobility

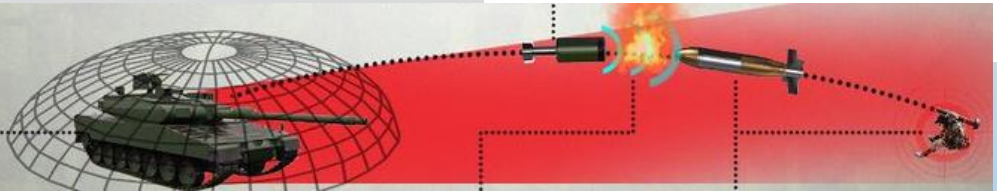
Problemmatic Logistics

Complicated Use / Excessive Training Needs

Troublesome Transportation

Don't Wanna Be too heavy but safe? → Hybrid Protection

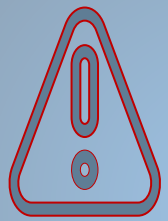
A strong allience of hybrid protection?

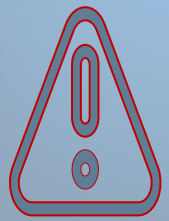


You have to step there, but fasten your active protection.

Air Domination has become so costly and hard to achieve cos of air denial assets and increased EW abilities

The Sole way of extending decisive firepower on adversary came to be Artillery and **Armored Platforms**





Sole Armor & Soft Kill solutions is not very effective against Anti Tank Threats on the battlefield

Top Attack and Flyover Anti Tank threats has proliferated in an unprecedented manner. Only remedy for such threats are Active Protection Systems incorporating Hard Kill abilities

PULAT Active Protection System

Stand Alone

Modular
Distributed

Compatible with both legacy and new generation armoured platforms

360^0 Protection against both AT & ATGMs

AKKOR Active Protection System

Hard kill & soft kill integrated active protection suite

Fly-over, Top-attack, ATR & ATGMs

Boosted situational awareness

AKKOR Active Protection System

Battlefield Gone Under Metamorphosis


RPG-7


MILAN


KORNET

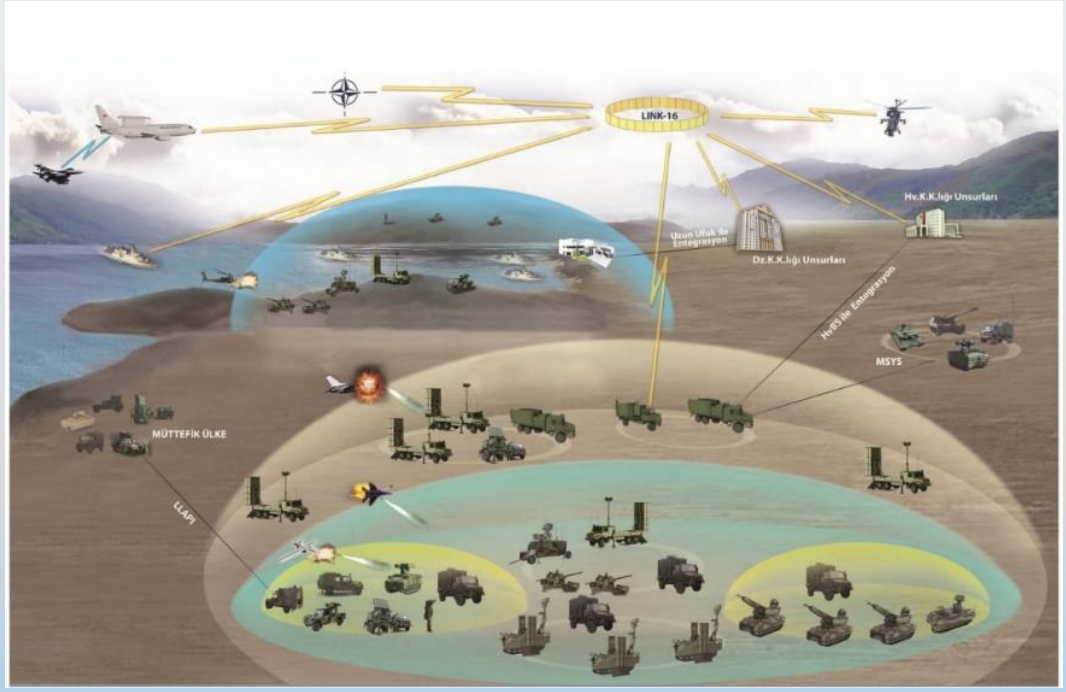

SKIF


JAVELIN


TOW


KONKURS

Tank needs teammates. Joint Operations !



Tanks supported by UAV's
Howitzers
Tank Camouflage
Anti Air Support

Readies the battleground for MBT's to shot their skills

Azerbaijan- Armenia Conflict

Tank needs electronics. Situational Awareness!

Enhanced Situational Awareness
Enhanced Active Protection Systems complying with Urban Warfare
Strong Coordination - Infantry Troops

Helps MBT's to survive and Show skill İn urban warfare

Israel – Hamas Conflict

Tank needs protection on the top. !

Enhanced Situational Awareness
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Israel – Hamas Conflict

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Then How Tanks May Survive Against the Threats?

Weight / Size Decrease !

Joint Operation is the key !!

Tanks should defend themselves from new generation threats !!!

(UAV, AT, Loitering Munition)

Heat Mark -

Camouflage +

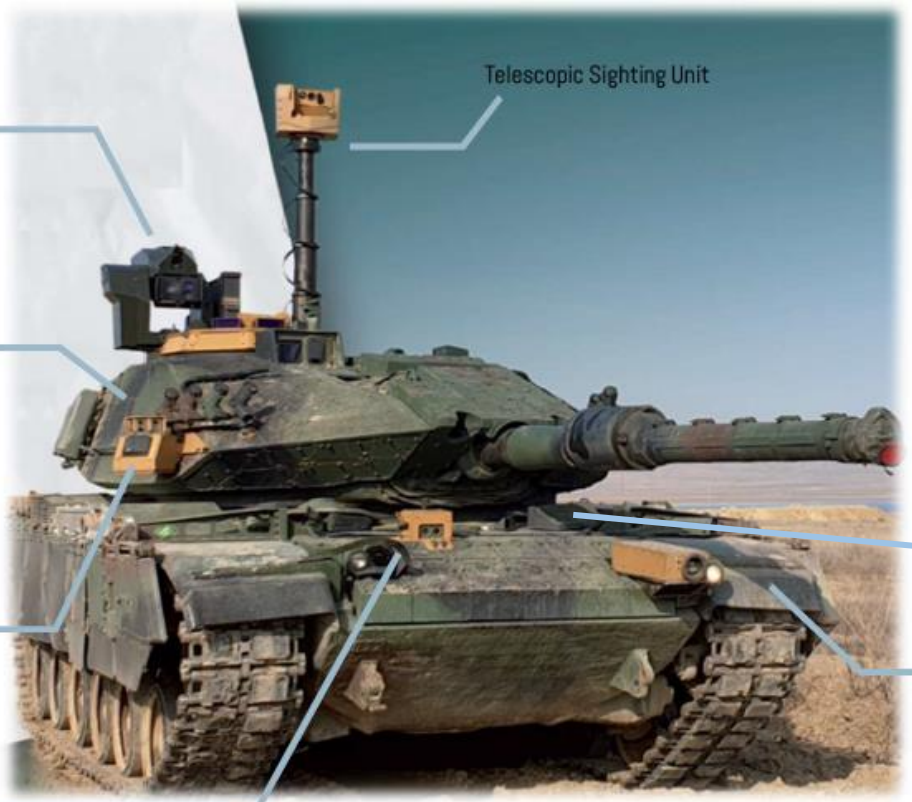
Hard to be spotted !!!!

Cost of tanks
Cost of Tank Ammo
MUST BE DECREASED !!!!!

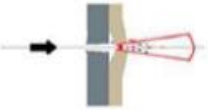
Modernization Projects Feeding on New Platform Development

- Modernizatıon Programs Led New Techs
- Feedback From The Battlefıeld
- Opportunity To Try / Operate ALTAY Subsystems On Legacy Platforms
- Increased Operatıonal Capabılity

M60 Tank Modernization Program



Audio Warning System



Spall Liner

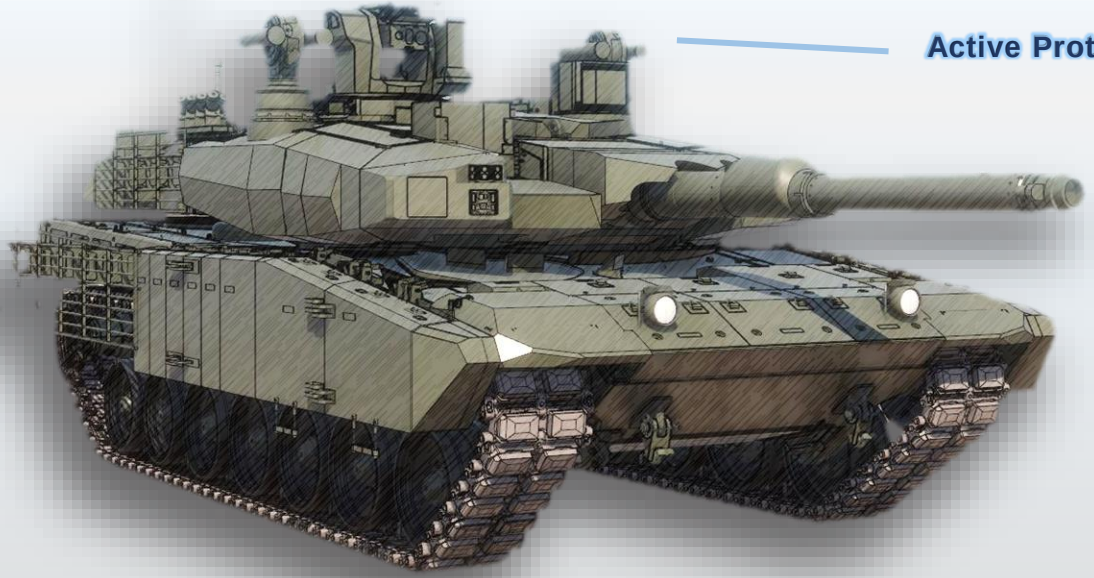
Air Conditioning Unit

Auxiliary Power Unit

New Fire Control System – VOLKAN M

Active Protection System

Leopard 2A4 Modernization Program



Active Protection System – AKKOR

T72 Modernization Project for Kazakhstan

ASELSAN integrated ASELSAN subsystems and successfully the finalized modernization of T-72A and T-72B series tanks.

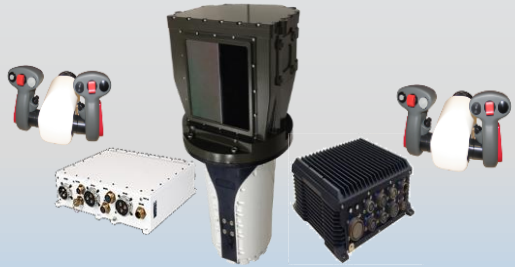
Talks are ongoing for serial production phase to upgrade the rest of the fleet.

Remote Weapon Station

Digital Radios

Intercommunication System

Driver Vision System



Fire Control System

T85 Modernization Project

- Turkish industry has broad experience on different type of legacy platforms (Leopard 1&2, M60 Series, T Series)

- Fire Control System for Soviet Tanks (TR-85 included) was first morphed from ASELSAN background info of Fire Control Systems, tested on T-72A and compatible with all T series tanks.

- All mission systems that are offered to TR-85 have modular system architecture and can easily be adapted to T Series tanks.

ALTAY MBT

Discover latest variant of Turkish-made Altay MBT Main Battle Tank

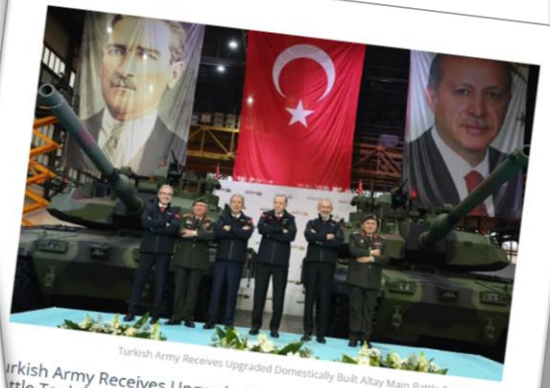
Defense News April 2023 Global Security army industry

POSTED ON THURSDAY, 06 APRIL 2023 16:58

Turkish Army Receives Upgr... Battle Tank for Trials

April 26, 2023 by Admin

...estically Built Altay Main



Turkish Army Receives Upgraded Domestically Built Altay Main Battle Tank for Tria

...rkish Army Receives Upgraded Domestically Built Altay Main ...ttle Tank for Trials

Turkish 'fire and move' main ... to the test range

By Boyko Nikolov — On Apr 23, 2023

...urkish Armed Forces receives its first ...ltay tanks

... Ganimat Kaur Sidhu

...e TSK received its first two Altay MBTs for testing from BMC during a ceremony at the manufacturer's plant at the ...rkish Ministry of National Defense's Arifiye Campus on 23 April, in the presence of President Recep Tayyip Erdoğan

Turkey: A New Turkish Tank, Yeni Altay

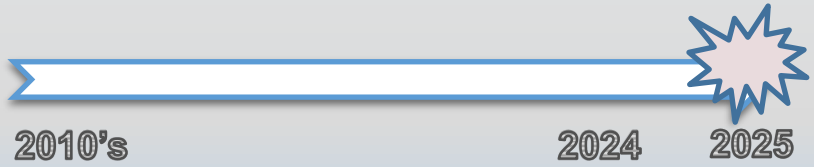
27 June 2023

by Herdem Attorneys At Law

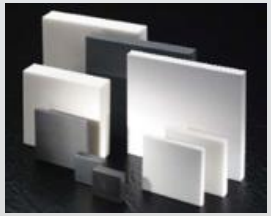
Herdem Attorneys at Law

FEATURES

- Intimidating Firepower
- Hybrid Protection and Flawless Survivability
- Perfect Maneuverability in its class
- Advanced Electronics
- Supplementary Subsystems

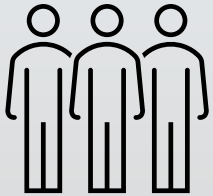


ALTAY

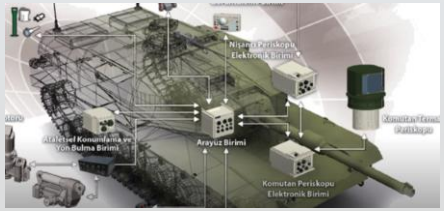


CERAMICS

APS



EMBEDDED TRAINING SIMULATORS

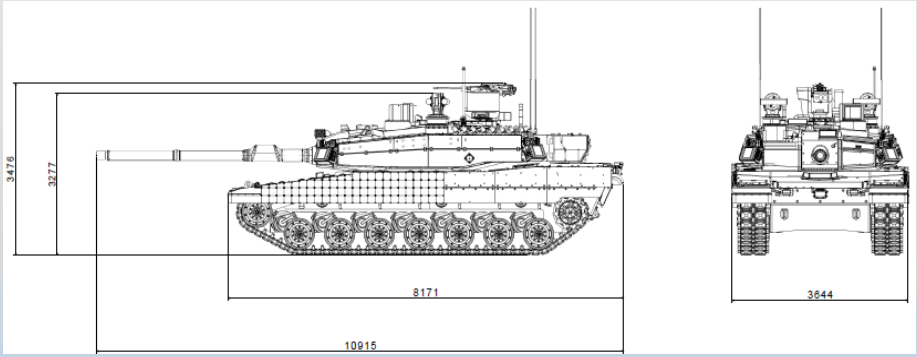


FIRE CONTROL VOLKAN2

ALTAY

- Highest protection level with the lightest solution to withstand the latest CE and KE threats by considering crew protection as a priority.
- Composed of RHA steel hull and turret structures with welded composite armour and add-on ERA packages

DESCRIPTION	VALUE
Personnel Number	4 (commander, gunner, ammo loader, driver)
Combat Weight	70 tons MLC
Engine	1500 HP
Transmission	Automatic HiTech Transmission



ALTAY

- VULNERABILITY
- Indıgınıous Armor Package
- Composit , Reactive, Slat Armor Solutions
- Spalliners
- Active Protection System
- IFF
- Fire Extinguishing
- Nuclear Chemical Threat Warning Systems

TÜBİTAK SAGE

aselsan

FIRE POWER

- 120 mm L55 Smoothbore Maingun
- Ability to fire Laser Guided Missiles
- Excellent Stabilization with state of the art VOLKAN 2 FCS
- TV/Thermal
- Electric Driven Turret

ENGINE

12 Cyl, 1500 hp Engine

TRANMISSION

Automatic 5 Forward 3 Reverse

SUSPENSION

ISU Suspension Unit – Elec Controlled

OPERATING ENVIRONMENT

+52 °C / -32 °C

roketsan

ALTAY

- OTOKAR A.Ş. Phase-1 Protoype Production & Qualification
- BMC 250 First Set
- More MBT's Not Yet Contracted
- ALTAY Family – Not Yet Contracted
- ALTAY T3

  Concept Studies
  Configuration Definition
  Preliminary Design
  Capability Demonstration Prototype

Tank Logistics : Wet Gap Crossing Program

OTTER – The older platform features

- Current Speeds of up to 3 m/s
- Speed on Water 10 km ph
- Operation time without refueling minimum 6+h
- Retracted wheels and axel in water

Tank Logistics : Enhanced Wet Gap Crossing Platform Program

9 AAAB set a 110 m bridge in 17,36 min


ALTAY


THANK YOU
GEAR 5
RPM 2500
SPD 34 km/h
STAB On