



# AMT FÜR HEERESENTWICKLUNG

ARMY CONCEPTS AND CAPABILITIES DEVELOPMENT CENTRE



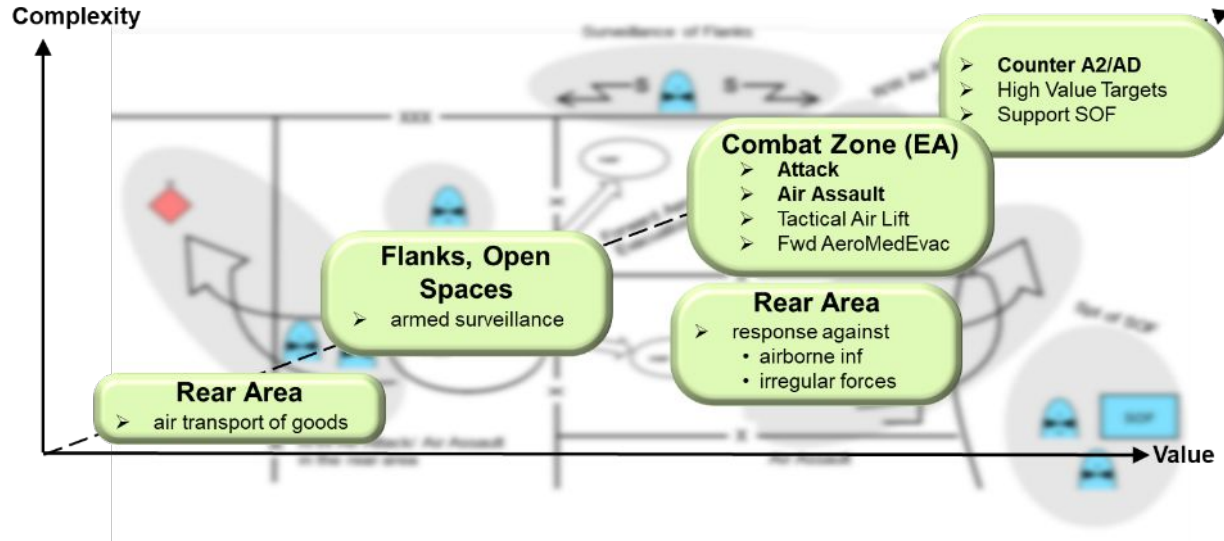
BUNDESWEHR

Mission

Spectrum

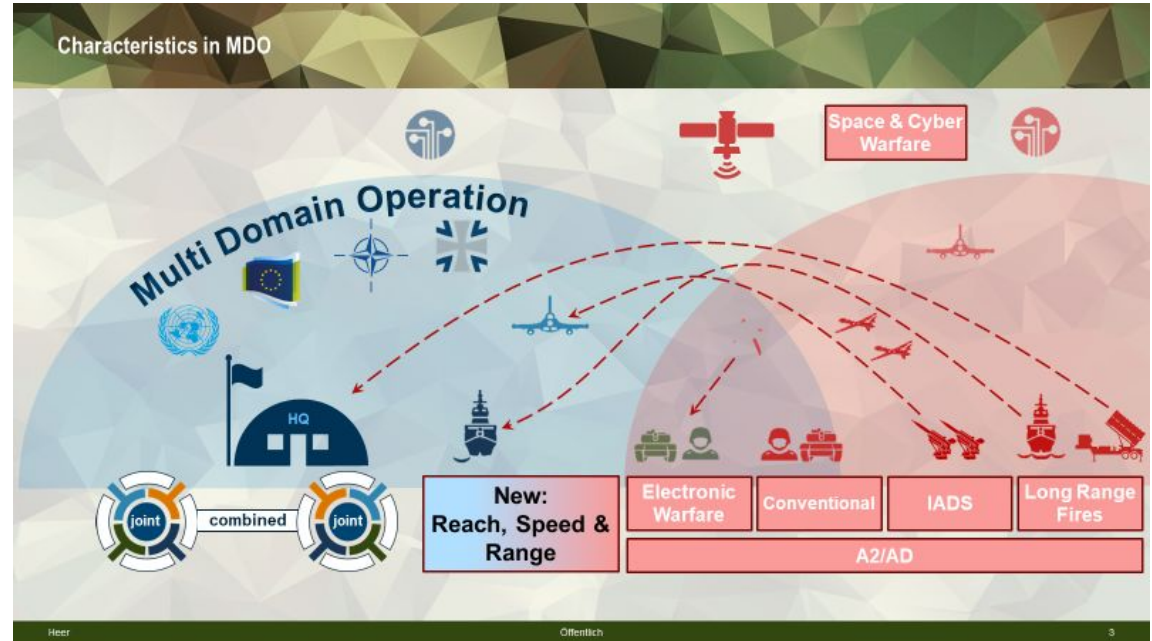


**Air manoeuvre forces provide flexibility to the ground commander and are ideal for surprise attacks!**





Multi-Domain  
Operations



- High level of complexity, networked approach
- Information in real time
- Effective weapon ranges for land forces 0 – 300 km
- Variety of unmanned systems
- Deception and jamming in the electromagnetic spectrum

## Threats to helicopters:

- Fighter jets equipped with AAM (ranges of 100 km+)
- GBAD
- Jamming
- Frequent use of UAS (friend + foe)
- Kill zone for helicopters FLOT - 100 km
- Threats on the ground in FOBs (UAS and/or Arty)



## Lessons learned/identified:

- Focus on adapted flight profiles  
(e.g. speed, night ops and low-level flying)
- Key for mission success: information/intel
- Change in mission tactics and operational use
- Implementation & integration of UAS/LE
- Need for robust and adapted systems





## Key capabilities:

- Ability to operate in a degraded visual environment (DVE) and night low-flying capabilities
- Standoff capability and use of launched effects (LE)
- Introduction, implementation and use of MUM-T
- Modular mission management system

# AAVN ECOSYSTEM – FUTURE DEVELOPMENT

## Success factors



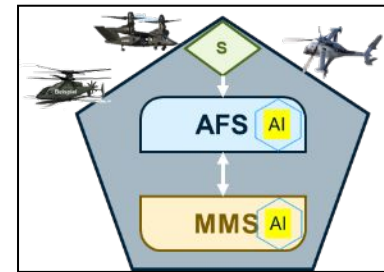
MUM-T



Crew assistance  
+  
decision support



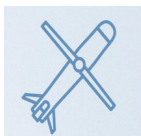
Extended  
sensor +  
effector range



## Mission enablers



Night and  
terrain-following  
capability



LE with  
multiple  
payloads



COP



Mission  
management  
system



Troop  
transport



Max. low-level  
speed

## Core capabilities



Open system  
architecture



Multirole  
Multimission



Rapid  
reconfiguration



Availability



ABDR



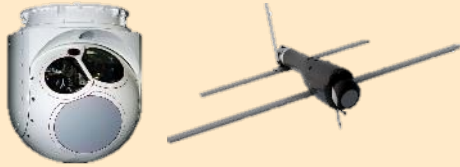
Cost per hour

## DEU Attack Helicopters





## Intelligence



Modern sensor platform  
Additional capabilities

## General:

- Technology demonstrator
- C2 platform
- Interim solution

## Disadvantages:

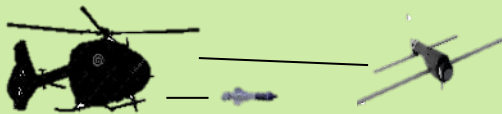
- MTOW
- Range

## Command and control



Integrated BMS  
Data links (air/surface/LE)  
Spider in the MDO web

## Effects



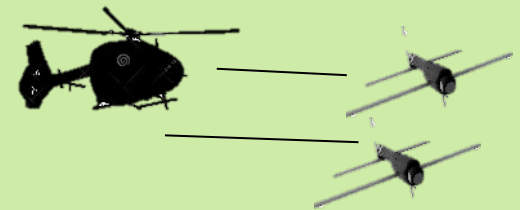
Standoff weapons  
Range by factor of 3  
Additional types of ammunition



Neither ATH nor Tiger  
AH

Modern flight control,  
avionics and EWS

## MUM-T



LE controller

## Multi-Mission System



# Cockpit Integration on H145M (demonstrator)



31. Jan 2023 21:05:39 UTC

DCT 50°C

MODE  
Edit Object

Object List

Messages

Vehicle Status

### Edit Object



Hostile

N47° 44.43' E011° 57.80'

2745 ft

Category

Friend

Affiliation

Hostile

Dimension

Neutral

+  
More

✓  
Accept



BMS

Battle Management System



**Hostile**

N 47° 44.43'  
E 011° 57.80'  
2745 ft AMSL

Classification: UNCLASSIFIED  
Networks: LOCAL  
Created: 21:01:29 UTC (4 min ago)  
Updated: -- --  
Hostile  
Weapon Range: 0.80 NM  
Sensor Range: 0.80 NM

# Integrated onboard BMS interface



## AAVN future operating environment

- Attack helicopters as offensive/defensive weapon systems for the main effort
- Transport helicopters as flexible means of deployment in overstretched areas
  - **Helicopters are highly efficient assets in land operations**

## Multi-role

- Highly specialised/diversified small-scale helicopter fleets to be avoided
- Possible introduction of a multi-role system to be decided on
- Multi-role approach with mission kits for attack and transport tasks

## Focus of AAVN capability development

- Night low-flying capabilities to be improved
- Range of onboard weapons (AGM/LE) to be enhanced
- Complete integration into national and international communication and data networks



# DEU Army Aviation Adopting a **BROADER VISION** of the **ARMY**

Ready to deploy. Ready to fight. Ready to win.

