

Estonia Fires Development Plan



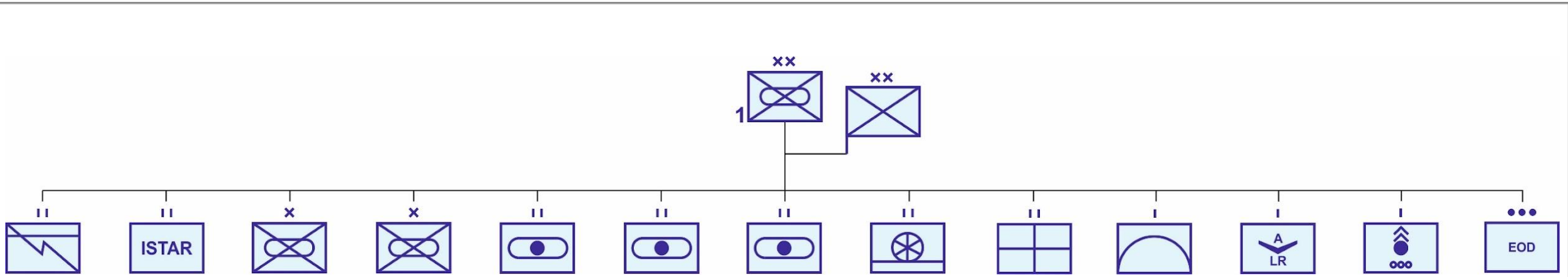
ALLAN RAIDMA
Lieutenant Colonel (OF-4)
Artillery Battalion Commander
Estonian Defence Forces

WARSAW 2024

Agenda

- ESTDIV**
- Formation of Fires**
- Main Tasks**
- Main Projects & Challenges**

Structure of ESTDIV



CV-9035

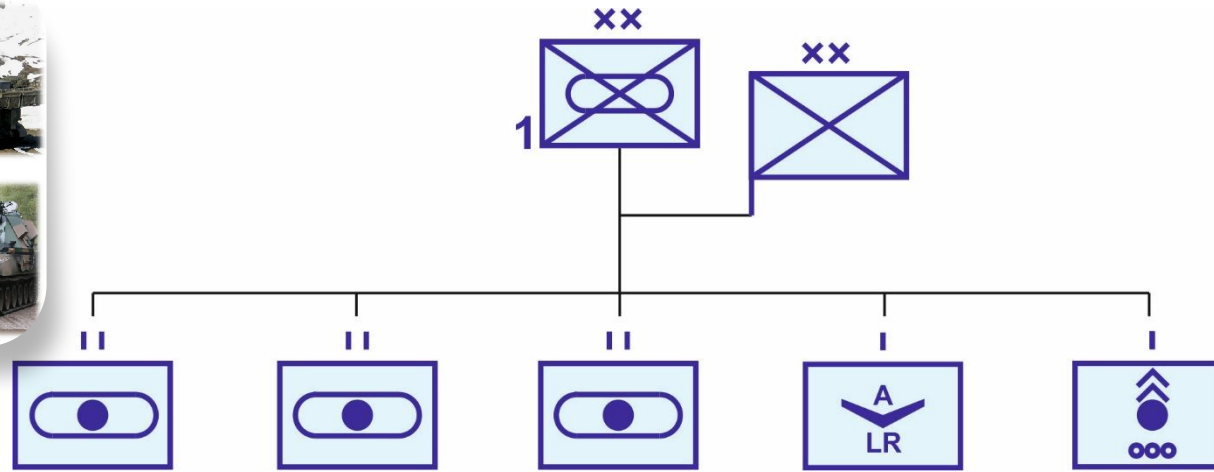


K9 „KŌU“



FGM-148 Javelin

Formation of Fires



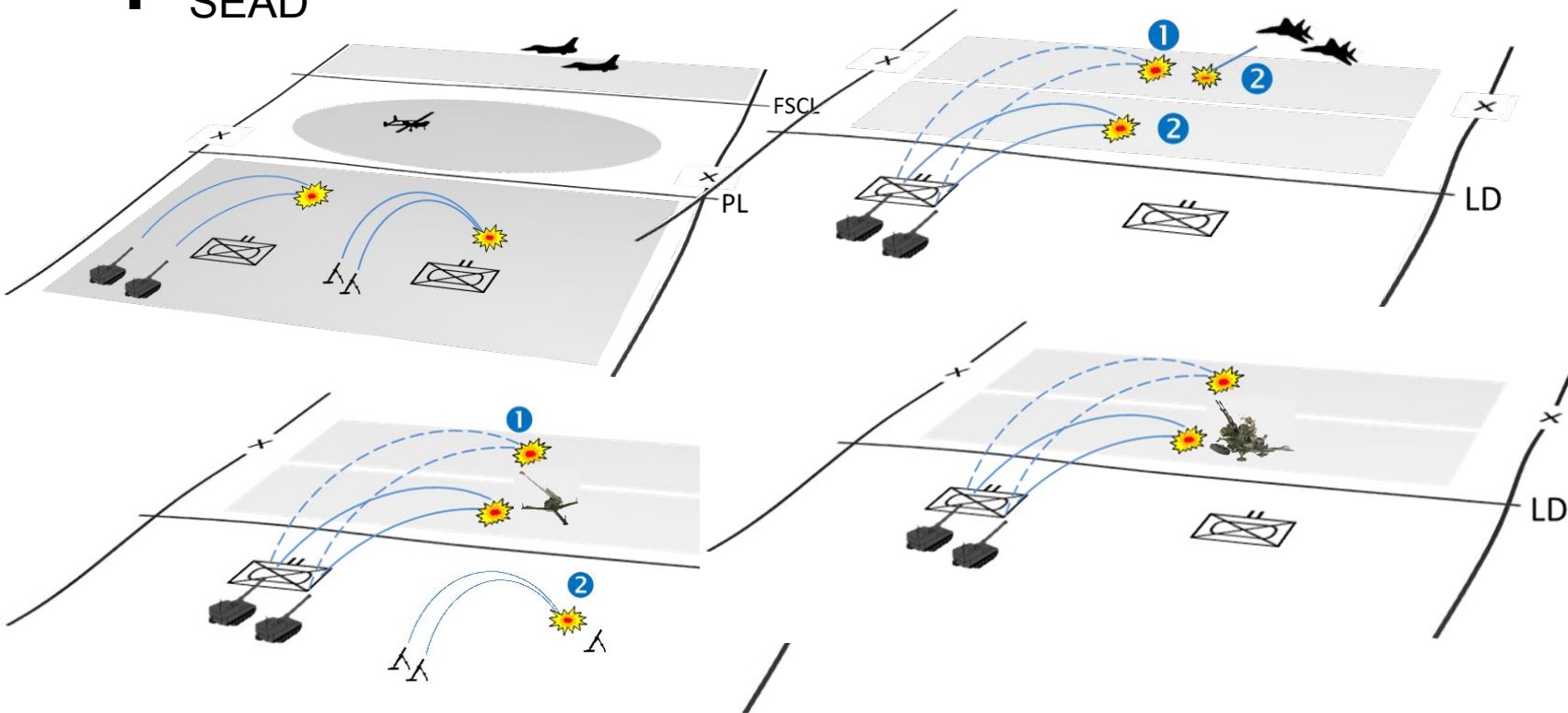
Type 1 & 2



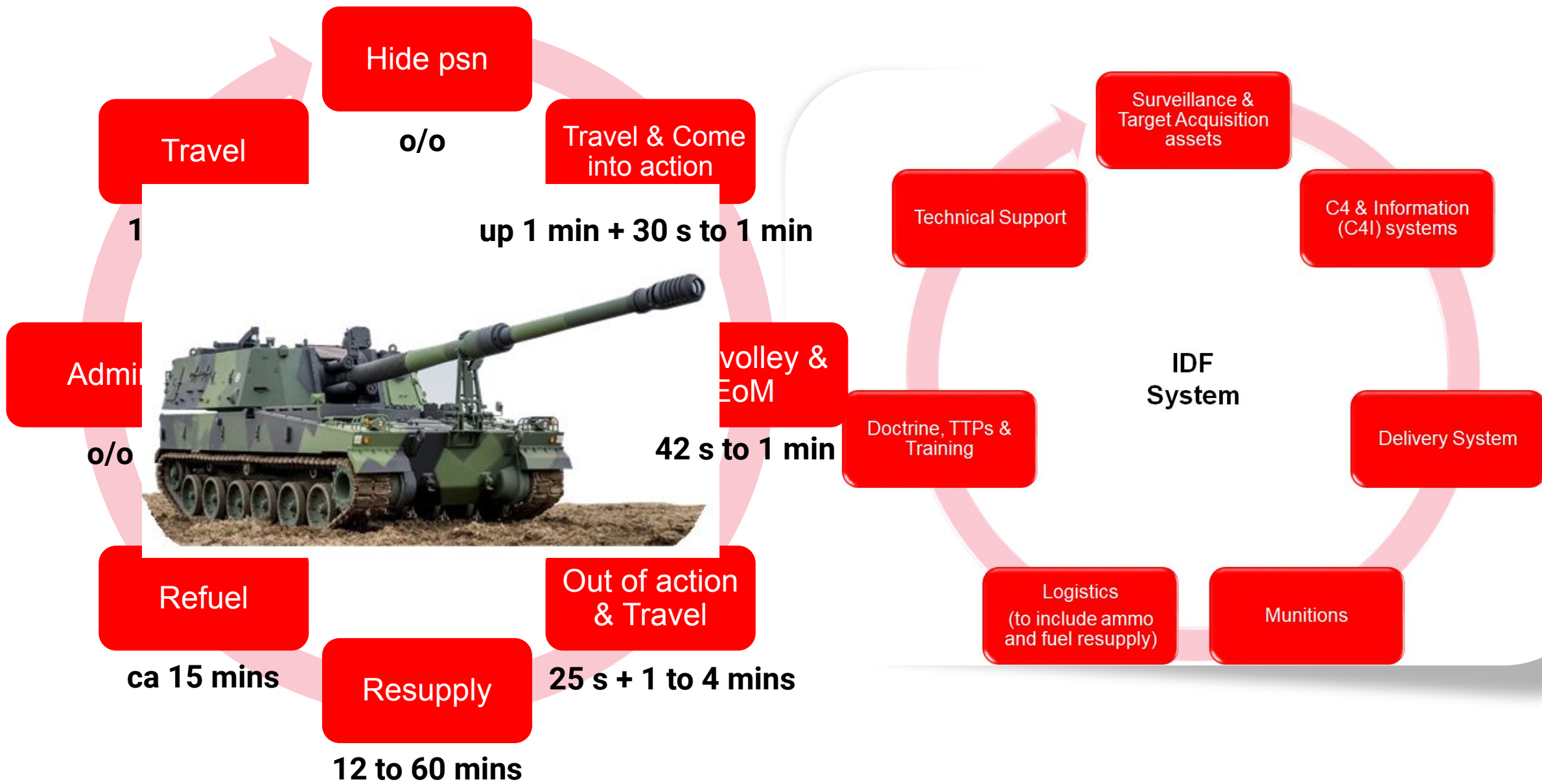
Tasks & Effects

- **Tasks:**

- Close Supporting Fires
- Deep Supporting Fires
- Counter Fires
- SEAD

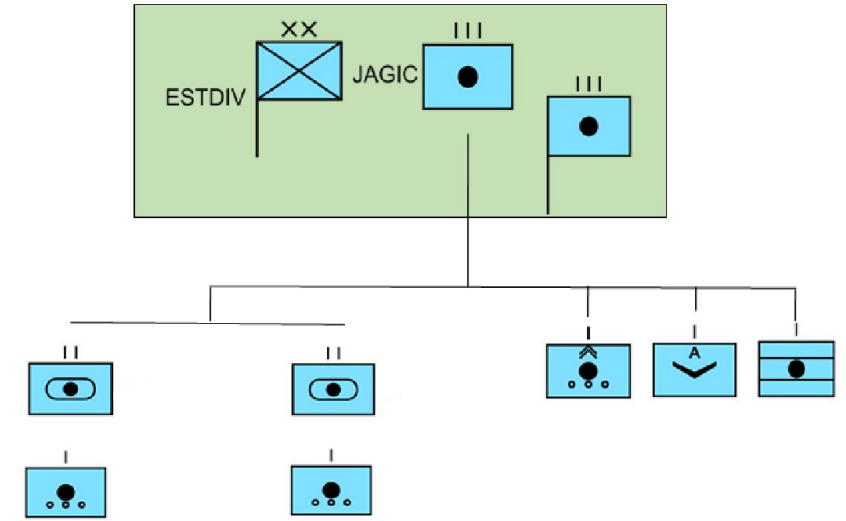


Main Challenge



Restructuring Process of Fires

- Have grown too big
- Division requires a new approach
- Different options on the table (Rgt, Bde, DRS)
- Solid and understandable chain of command
- More responsive, continuous, support in all types of operations and throughout the AoO of DIV
- No definite decision is made
- Process is ongoing



FSS Tooru

❑ FSS Tooru modules:

❑ Ballistic Module. The latest NABK is used

ASCA compatible (v7.02)

❑ Fire Support Module:

❑ Forward Observer Module

❑ Weapon Module

❑ Calculator Module

❑ FDC Module

❑ Fire Support Command Module

❑ FSO Module

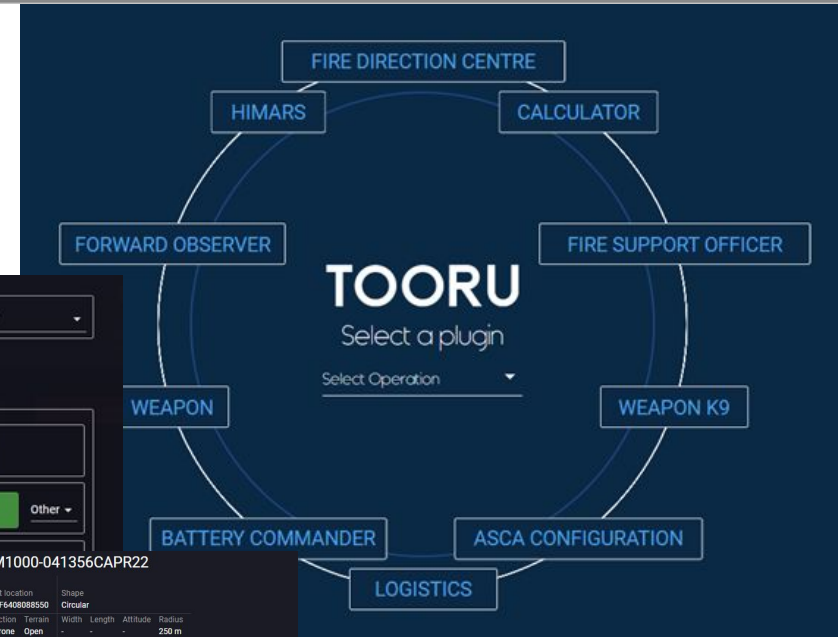
❑ Fire Support Planning Module

❑ Logistics Module

❑ Survey Module

❑ MET.GM

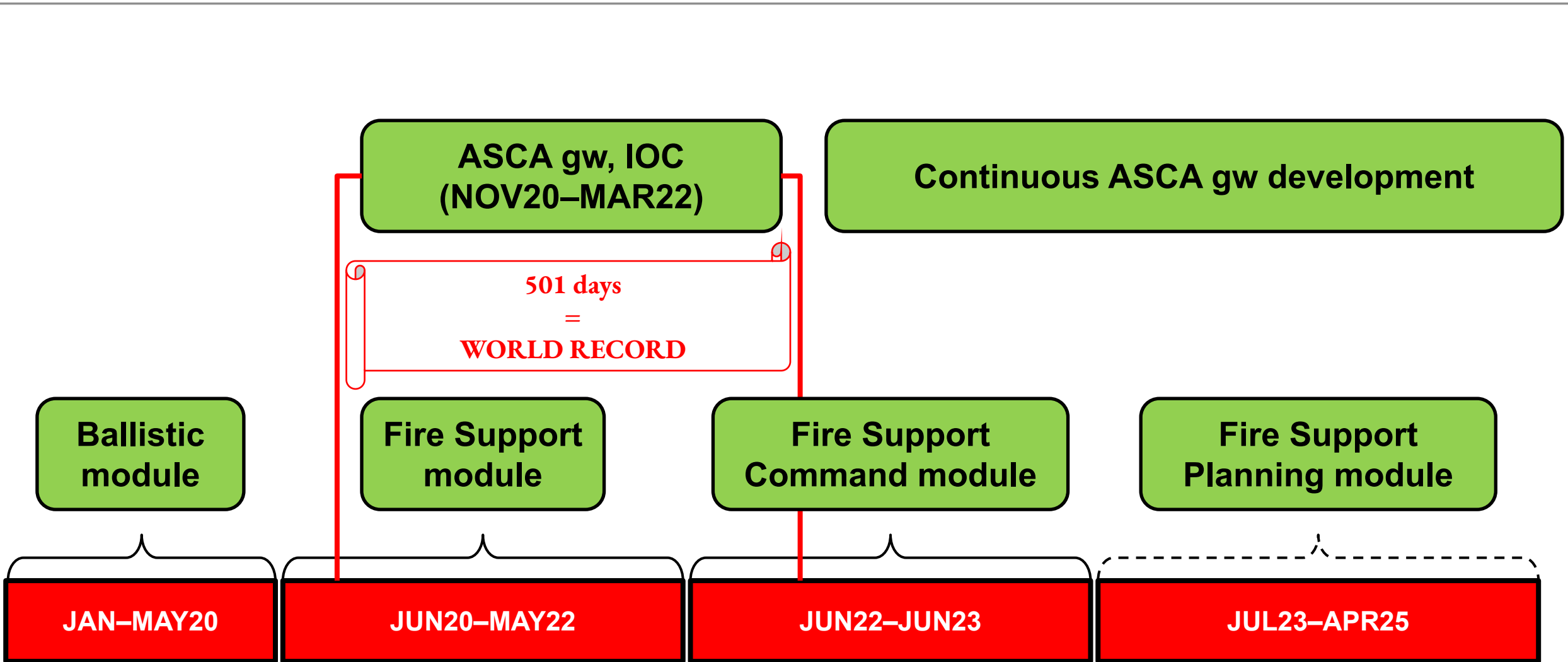
❑ JF Module



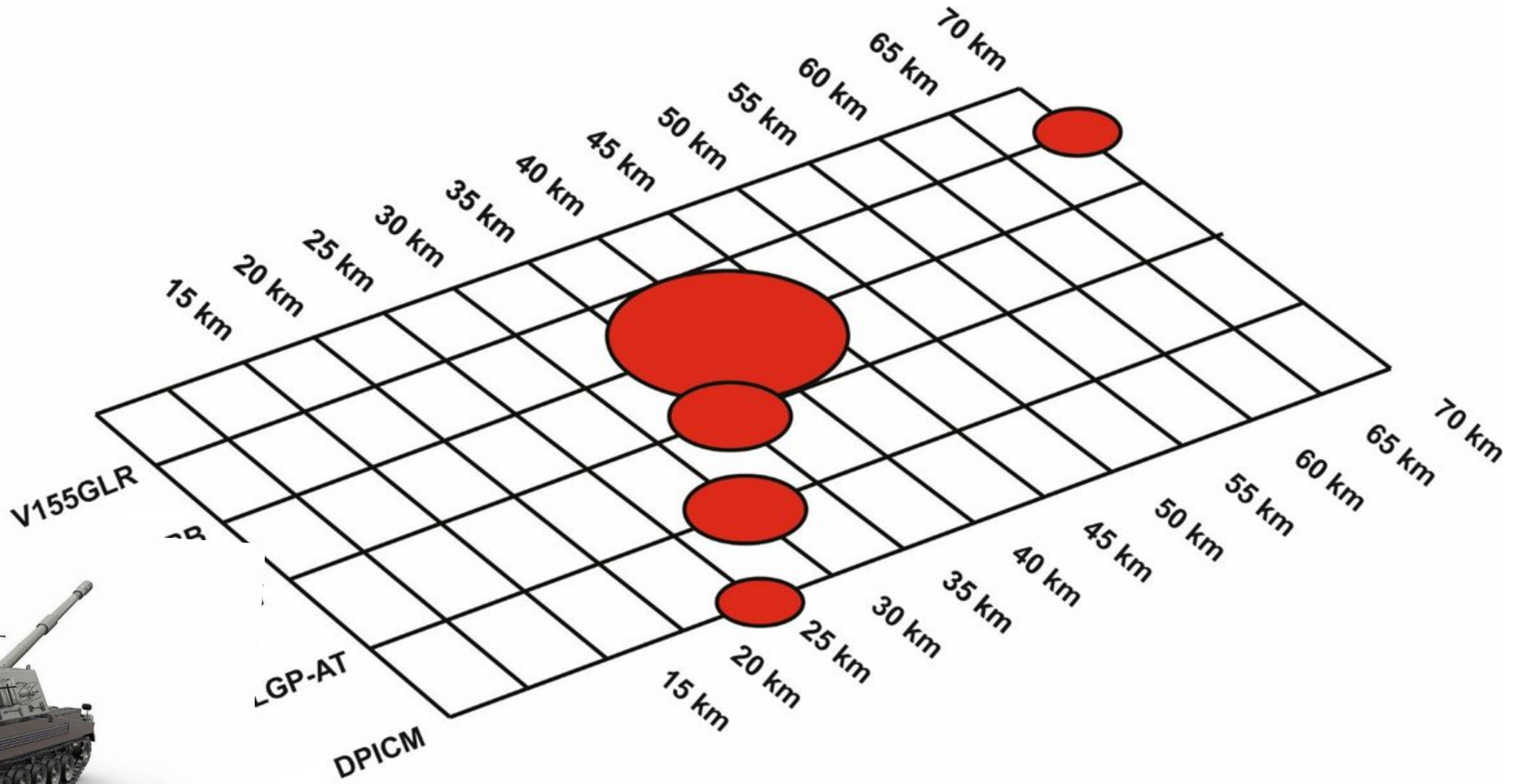
Supports both, SA & Logistics



Project of FSS Tooru



Artillery Muniton



Artillery Munition

Fire Control Systems

M270A1 Multiple Launch Rocket System (MLRS)

- Combat-proven tracked launcher
- Mounted on modified Bradley M993 chassis
- Lightly Armored / man-rated 3 Man crew cab
- Rapidly deployable via C-17 (2ea) and C-5 (3ea)
- Fires entire MLRS / ATACMS Family of Munitions
- Carries 2 Pods of 6 Rockets or 1 Missile each
- Uses Improved Fire Control System (IFCS)
- On-board Self Reload/ Self Location systems
- Combat Weight Legacy system 57,544 lbs.; IAC 66,540 lbs.
- Speed 64 KPH/ 40 MPH

M142 High Mobility Artillery Rocket System (HIMARS)

- Combat-proven wheeled MLRS
- Mounted on modified XM1140A1 five-ton FMTV chassis
- Armored / man-rated 3 Man crew cab
- Rapidly deployable via C-130 (1 ea) and C-17 (3 ea loaded / 4 empty)
- Fires entire MLRS / ATACMS Family of Munitions
- Carries 1 Pod of 6 Rockets or 1 Missile
- Uses Universal Fire Control System (UFCS)
- On-board Self Reload / Self Location system
- Combat Weight 35,800 lbs.
- Speed 94 KPH / 58 MPH

MLRS Dual Purpose Improved Conventional Munition (DPICM) (M26 / M26A2 ER)

GMLRS DPICM (M30)

GMLRS Unitary (GMLRS-U) (M31 / M31A1 / M31A2) GMLRS Alternative Warhead (GMLRS AW) (M30A1 / M30A2)

ER GMLRS Unitary (XM404) and AW (XM403)

Low Cost Reduced Range Practice Rocket (LCRRPR) (M28A1 / M28A2)

ATACMS BLK I (M39)

ATACMS BLK IA (M39A1)

ATACMS Quick Reaction Unitary (QRU) (M48)

ATACMS T2K (M57)

ATACMS Modifications (Convert M39 to M57)

Precision Strike Missile (PrSM)

Preconditions for Munition

Projectiles

- Improved range, accuracy & lethality
- Improved safety & compatibility

Charges

- Modularity
- Higher muzzle velocity
- Improved safety

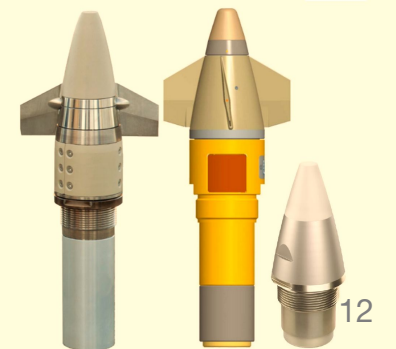
Fuses

- Improved flexibility
- Improved accuracy

- ❖ RA, ERFB, BB
- ❖ PFF
- ❖ IM
- ❖ DC, TGM, CCM, PGM

- ❖ (U)MACS
- ❖ LPs

- ❖ MOFA
- ❖ LR-PGK, anti-jam, GPS-M
- ❖ CCF
- ❖ TGF



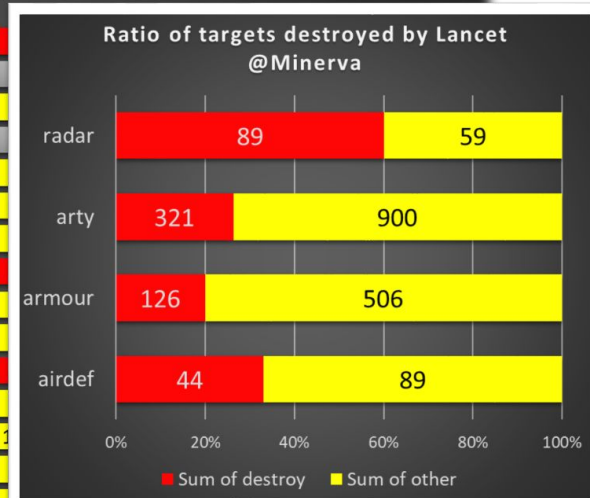
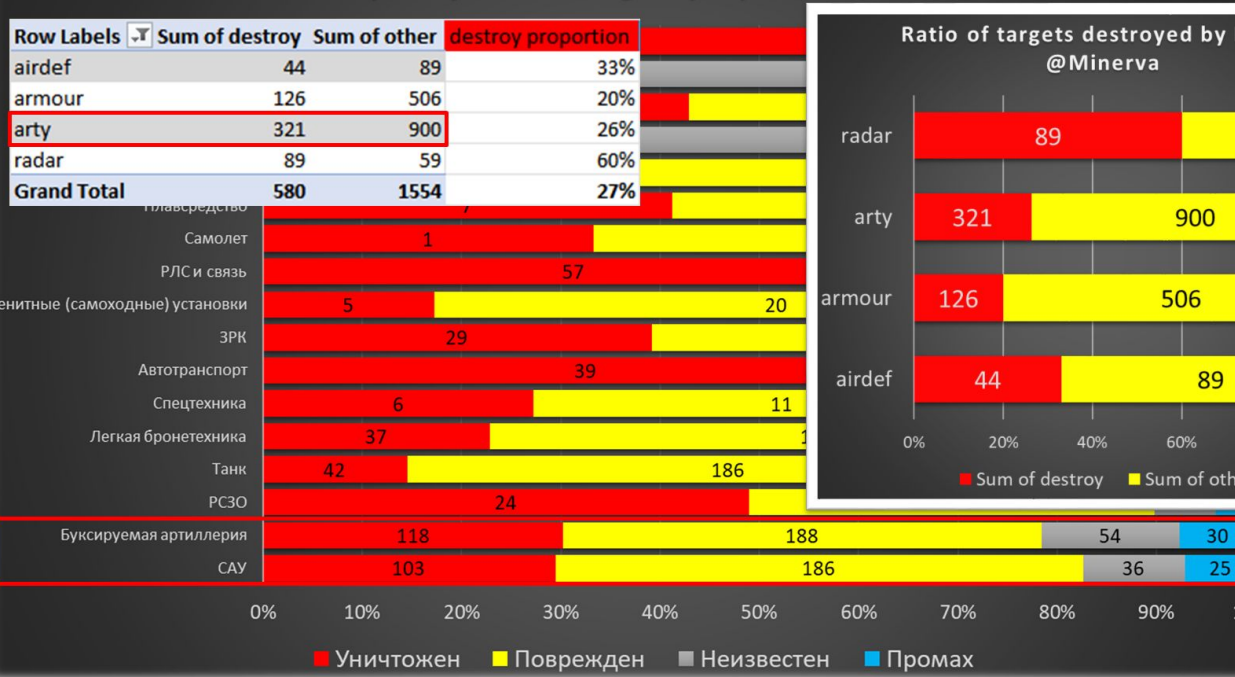
Transportation of Munition







- ❑ At least two times quicker chain of replenishment throughout the EchS
- ❑ Change of means & TTPs
- ❑ Improved stand-off capability
- ❑ Effective TGT engagement at longer distances
- ❑ Improved materials & weight
- ❑ Reduced number of different types / modularity



Main Threats to the IDF Systems

Destroyed by Lancet targets proportion @Minerva



-  Unmanned aerial platforms (loitering munition, weaponized drones)
-  WLR capabilities w/ C4I systems, radars, range of ammo
-  EW assets
-  AT mines & sub-munition (SFM, DPICM)
-  Ground forces (SOF, hostile population, spotters)
-  Air Forces (e.g. KAB bombs)

Increasing Survivability

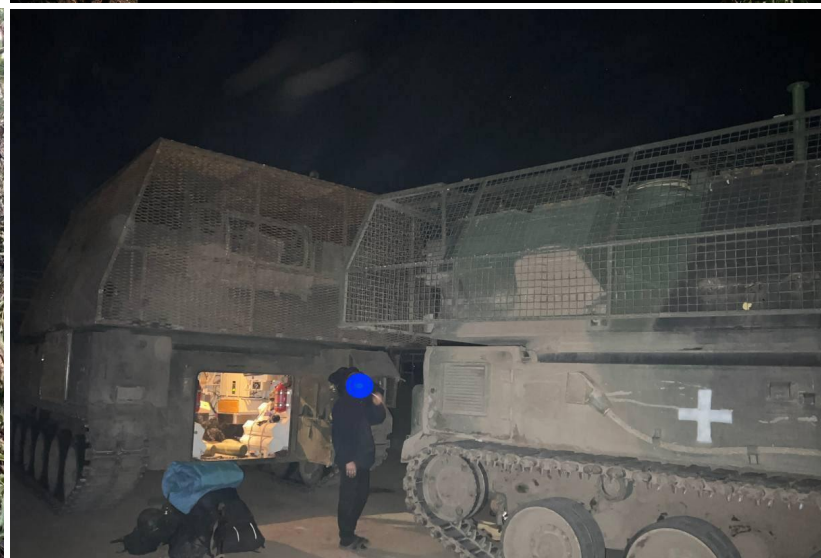
Capabilities or Measures:

- Stand-off capability & IM
- High mobility & autonomous TTPs
- Situational awareness (soldiers, sensors, weapons)
- Threat warning receiver
- All-around self-defence & observation
- Passive & active self-protection systems for guns
 - Kinetic means (e.g. 7,62mm MG, explosives, drones)
 - Energy beam means (e.g. lasers)
- Train to deploy in heavily vegetated areas, dispersal / spreading out
- Concealment & Multi-Spectral Camouflage (sight, sound, flash, IR, thermal)
- Signature reduction / shielding

Hardening & Camouflage



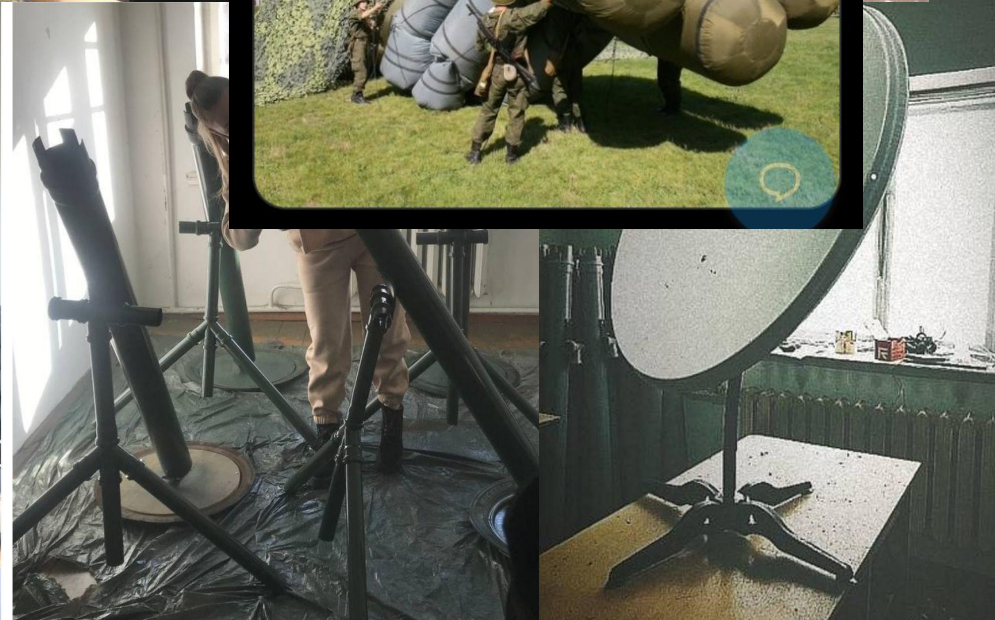
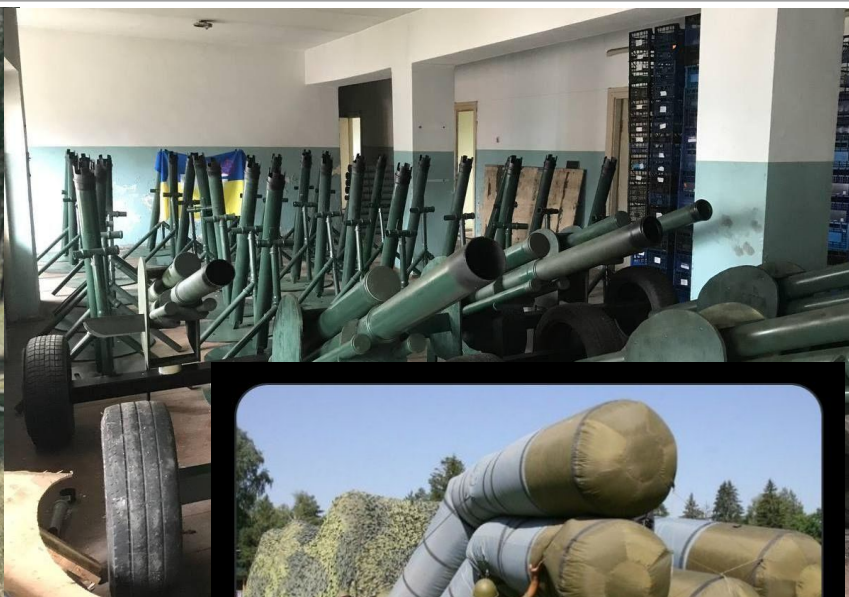
Hardening & Camouflage



Hardening & Camouflage



Deception



Q

&

A

Types of Headaches

Migraine



Hypertension



Stress



**Living next to
Russia**

