

# **Proposal for cooperation in the armaments modernisation programs**

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# **Proposed items for the cooperation**

- 1. 2K12 KUB System**
- 2. Modernisation of Soviet produced radars**
- 3. Systems for the defence of national border and main national buildings and goods**
- 4. Upgrading of ammunition plant stations**

# 1. Aim of 2K12 modernization

- Have to keep the readiness use and modernize the main military equipment.
- Modernization must be carried out that recourses for maintenance have to be reduced
- Modernization provides high level of reliability and lifetime extension for electronics spare parts

# Fire control radars (1S91M2D,3H)

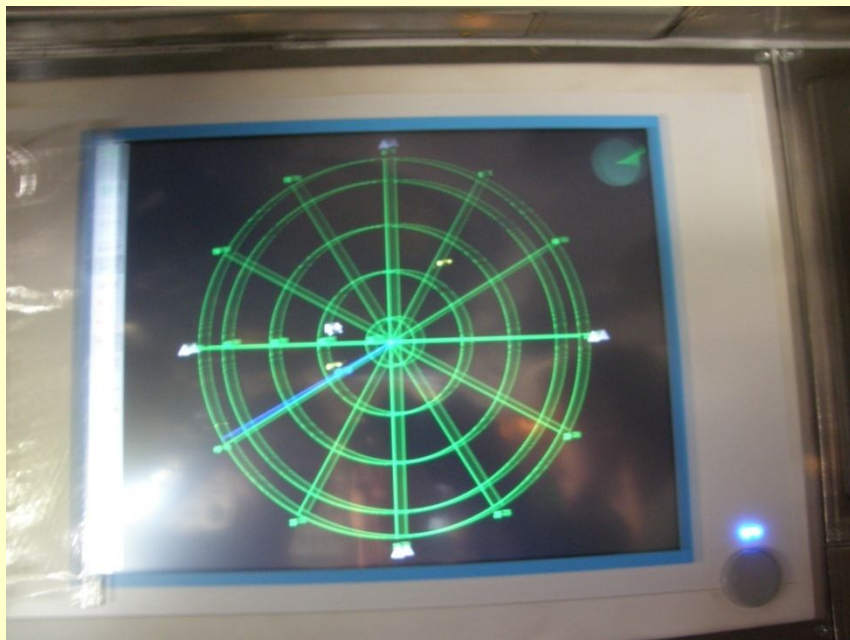


# KUB modernization

- We implemented new elements on the station
- New optical and laser detection and target follower system (provides passive radar capabilities for KUB system)
- New radar information and display system



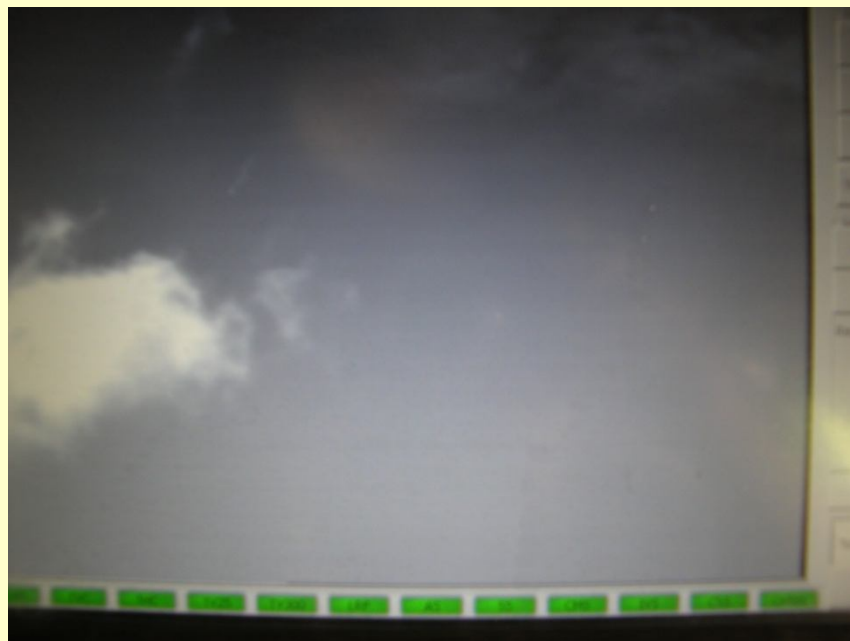
# KUB modernization



# KUB modernization

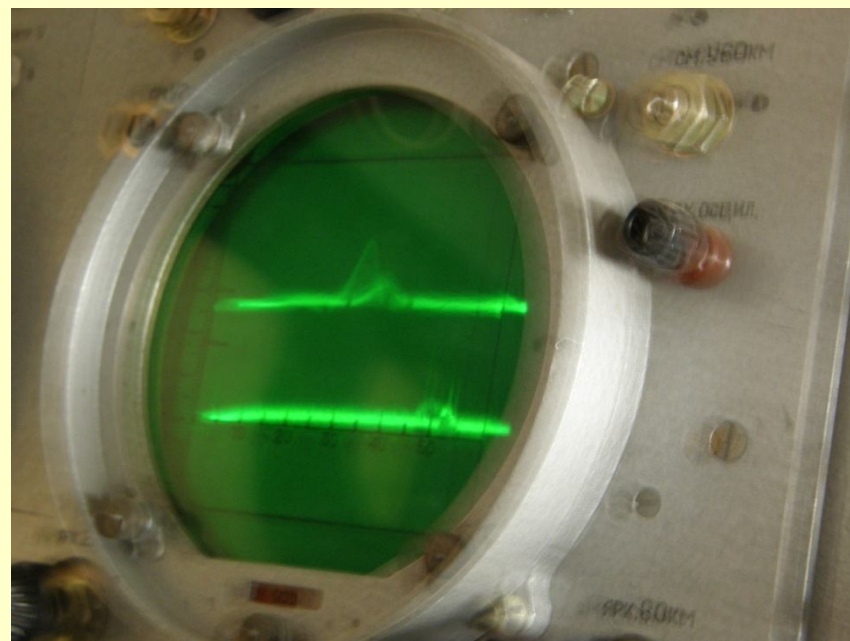


# KUB modernization

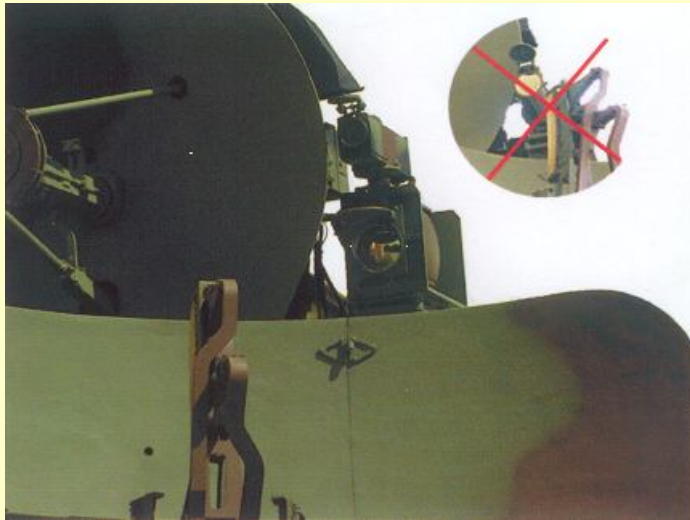




# KUB modernization



# KUB modernization



SA 6  
KUB

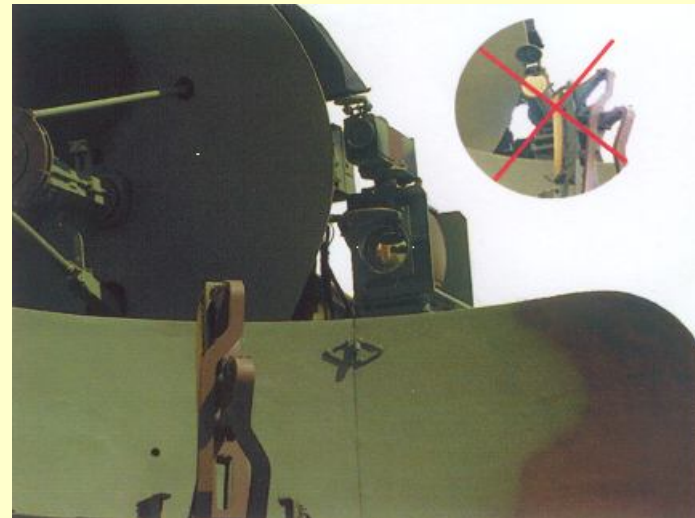




## 2. Modernisation of Soviet produced Surveillance Systems



Passive system





# Proposal

- Our company offers a full overhaul and modernisation program for next type soviet produced radar system.
- P18, P37, PRV16, PRV17, SZT68U, P14
- The modernisation gives a full answer for the „Today's requirements" such as:
  - Radar signal processing
  - Radar information display
  - Radar data output
  - Identification
  - Reliability and maintenance cost effectiveness

# **The Advantages of the modernisation programs**

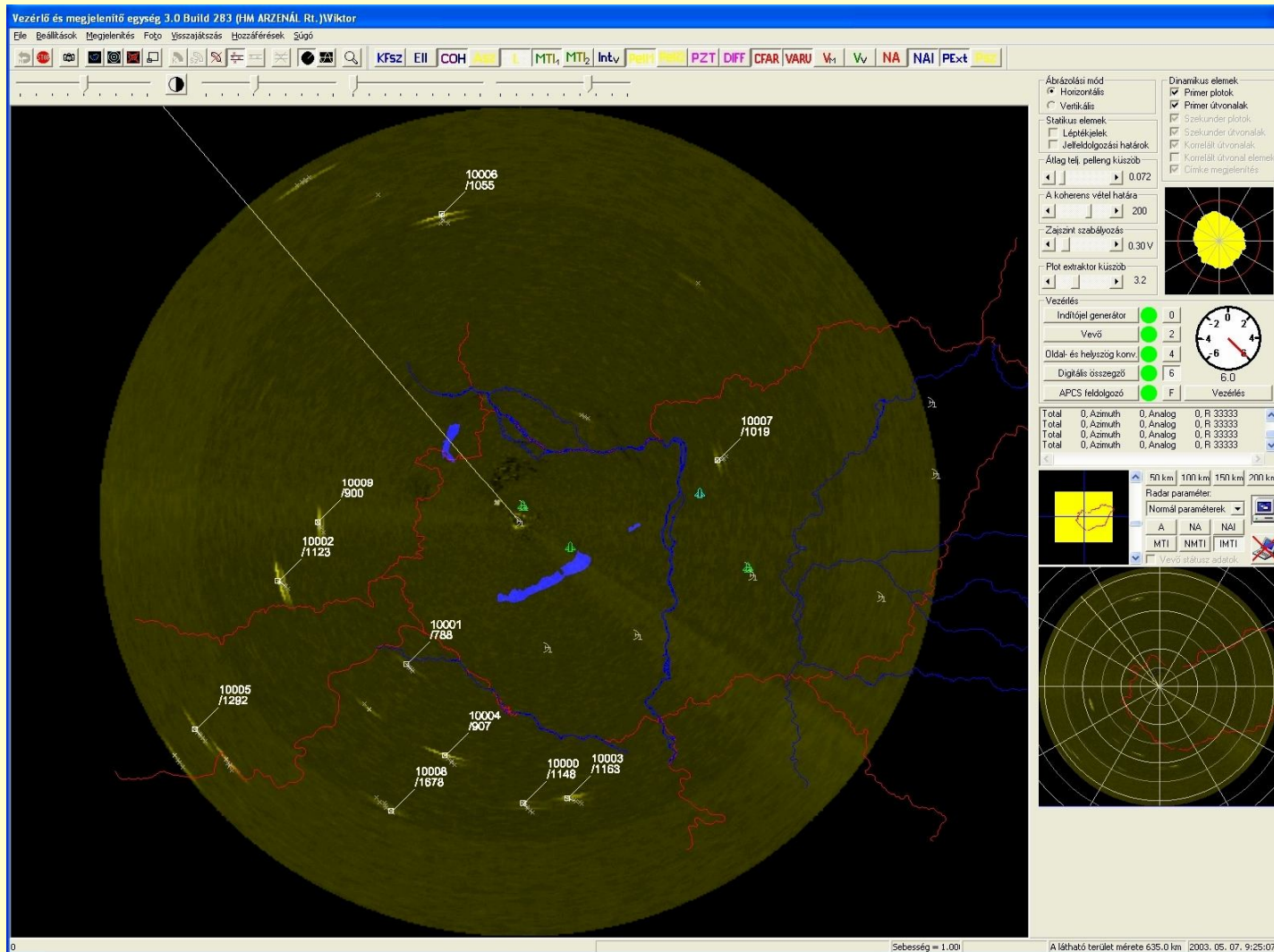
- The number of built-in devices decreases. New units based on up-to-date components replace and take over the functions of a number of tube circuit design units. That improves reliability and availability, and decreases demand for tuning and servicing.
- The applied advanced digital signal processing technologies increase the jam resistance and improve the capability to detect low radar cross-section targets
- Energy consumption and emitted power decreases. Omission of high voltage parts of PP indicators further increases reliability of operation
- Operator comfort improves as a result of more space in indicator cabin and operation procedures aided and simplified by modern computer workplace
- The digital output enables connection to modern airspace control centres even as part of mobile radar subordinate units

# Radar modernisation

- New modernisation includes:
- Fully coherent all-solid state radar transmitter (impulse compression)
- Full digital receiver system
- Extra defence from jamming
- Digital signal and data processing
- New locale console
- GPS and IFF capability integration

# Radar modernisation

## Controlling and Displaying Unit Screenshot





# Radar modernisation

Digital receiver & Digital signal and data processing System



# Radar modernisation

- Results of modernisation:
- New radars are highly covered and protected from all type of active and passive jamming
- Have only one (or no one ) operator
- Reliable

### **3. Systems for the defence of national border and main national buildings and goods**

#### 3.1. Saker" radar system Portable ground based surveillance system



## 3.1 General description

By Hungarian military industry developed SPSS-1000 (Saker Portable Surveillance System) is a short-range, portable, and versatile scanning system, which is suitable for the surface close to moving targets (persons, living, moving objects), as determined by their distance, speed and size determination.

Ideal for borders and free space monitoring military and civilian security monitoring of protected properties. Its low weight and mechanical design allows for easy and rapid installation and transport. Structure allows construction to withstand the rigors of the weather, so use extreme environmental conditions (hot, sunshine, snow, rain, fog), resulting in a reliable and accurate measurement. Automatic remote operation (1-10 of radar remote) one person requires treatment, which results in a cost-effective operation.

The system should be used with laser-electro optical-infrared system built in a car and provides a full surveillance detection and identification capability in real time.



## **4. Upgrading of ammunition plant stations**

- Our company has upgraded ammunition plant station for a few Asian and European countries.
- The upgrade includes: the cleaning, repair of all elements of ammunition but does not includes filling the ammunition with new powder and TNT.

**Thank you for your attention!**