



# VB-10 Concludes Company Trials

The VB-10 soldier system continues to be refined by the state-owned Yugoimport SDPR and used in formal military trials over the Autumn

**Vojnik Budocnosti-10 (VB-10) remains a Yugoimport SDPR programme, the Serbian government having yet to commit to a formal programme of record although prototypes of the system have been tested and evaluated domestically and has also been demonstrated to several potential customers in the Middle East and the Far East.**

Aleksandar Lijakovic, Head of Promotion Department at Yugoimport said, "[The VB-10] has been based on our strategy of the development of a system of systems. We are trying to produce new advanced systems of systems for artillery, mechanised platforms and mechanised infantry. We are building modern state of the art systems with fire control systems and networking."

"We are making a complete development of systems within the Yugoimport SDPR company with original Serbian weapons and optical sights but of course we can also integrate imported components: computers and cameras – normal commercial and military level off the shelf standard components and integrate them."

Serbian requirements for soldier modernisation began in 1999–2000 and includes all aspects of capability, elements of which are entering service and have already been selected for the VB-10 system.

## New Weapons

As part of Serbia's infantry modernisation plans, two new NATO calibre weapons are being brought into service; the 5.56x45mm M21 assault rifle and the M77 7.62x51mm automatic weapon family.

Lijakovic said, "Those two rifles are the basic weapons systems but the majority of soldiers in the squad will have the 5.56mm weapon. This weapon has cameras with helmet mounted displays and provides for firing around corners. Only two guys in a squad will get the



As part of Serbia's infantry modernisation plans, two new NATO calibre weapons are being brought into service; the 5.56x45mm M21 assault rifle and the M77 7.62x51mm automatic weapon family © AJB

- M77 weapons, intended for long range targeting and long range surveillance and Laser Range Finding (LRF)."

The 5.56mm M21 which dates from 1999 is offered in three barrel lengths. The medium sized barrel is issued with the VB-10 ensemble. Known as the M21BS-v10, it is designed as a weapon-sensor platform with an optical sight bracket on a Picatinny rail; which serves as a mount for an optical sight with integrated target marker which is activated from the forward hand grip. A reflex sight is attached to the top side of the optical sight and the eyepiece of the optical sight has a built in CCD camera connected to an LCD display which allows for firing around corners. The weapon can be used from both eyes and passive night sights can be added for 24 hour operations. In the VB-10, every soldier in the squad will get a system with a portion of this equipment. The system has been designed so that the camera can be removed leaving only the normal optical sight in circumstances such as low availability of power.

Lijakovic said, "The system on the M77 7.62x51mm system consists of an integrated daylight sight with optical sight with only X2.1 magnification but with a 15 degree field of view. It is a very effective optical sight. The system has the laser target pointer integrated with this. Depending on the squad concept we can speak about the squad commander who would be equipped with this and the assistant squad commander who is responsible for range finding and pointing targets. He can generate data about range finding and input that data into his GPS computer and send this position by radio communication systems to a parallel network. The guy has this rifle for shooting of enemy troops with this powerful optical sight or even the reflex sight for emergency short distance firing but the basic idea for this weapon is target pointing at long ranges."

#### C4I Trials

At the lowest level, squad commanders will have the position of all members of the squad and also all soldiers have GPS equipped radios which are integrated into the system, and into accompanying vehicles for example. Platoon or company commanders will receive the positions of their subordinate unit leaders. The squad commander assistant will input information about target position and communicate this information upwards to their commanders.

In addition to being able to recharge power in each vehicle, squad members will also have access to vehicle communications via an RF link the intercom out to a range of 1000m.

Trials have been completed with simulated typical tactical missions, including in urban terrain operating as a system with Serbia's new Lazar wheeled IFVs at a military test centre 30km northwest from Belgrade. These new trials took place in Autumn 2010, the first which have

included VB-10 since 2007. These saw fifteen sets of equipment used to replicate operations from squad up to company level.

"Soldier systems are one part of it," explained Lijakovic. "It is a system of systems of joint task forces. We are calling it BMS for Joint Task Forces which is integrating C4I systems throughout the joint task force including the armoured elements represented by M84 tanks, mechanised vehicles and also motorised infantry with the Lazar."

In the trials a Trimble Nomad computer was used with the VB-10 which used Windows Mobile and APP-6 interfaces although the system is designed to be device agnostic. In the trials Liteye HMDs were also used. Displays will be limited to the squad leader and over. Lijakovic said, "We are not going any lower because it will be a traffic mess. If soldiers have spotted something they can call by voice and we can input a symbol and the

commander can upload data to the higher levels. We are also working on two-way situational awareness so that not only the upper command echelons have information but also the platoon leader will have information on where the other leaders are, based on their geographic position."

A new domestic personal radio is being described as being in a medium stage of development. Lijakovic said of the VB-10, "We followed the same logic as any other SMP programme. We are not limited in the radio. We have tested several UHF IP radios with several manufacturers. We can use any type."

Different types of US, French and UK sourced CNRs, currently in Serbian service were also used in the trials.

For personal protection new body armour is being deployed known as PBB VB-10, which supports modular protection to Level 3, 3+ and 4. A new digital camouflage pattern is also entering service. ■



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