

## **SLOVENIAN EXPERIENCE**

### **About SAR, EMS, Bambibuckets, new Era's, LETS and 'Fixed Wing' Helicopters**

#### **SLOVENIAN EXPERIENCE**

Slovenia is one of the youngest independent states in Europe. Embedded within the Socialist Federal Republic of Yugoslavia it dared to seek independence in 1991 and succeeded. Fortunately only a very little part of the following hostilities between former Yugoslav republics reached Slovenia. The country adapted to a new character, influenced by Austria and Hungary and joined NATO in November 2003. Without any heritage but a few UTVA-75 trainer aircraft from de federal Yugoslav military it was consequently forced to built up an own new air component. This started with a Gazelle which deflected to Slovenia on 28 June 1991.

#### **INITIAL DEVELOPMENTS**

Slovenia steadily saw its air force growing since that time. First named as AVIATION UNIT of the Territorial Defence Force it was later renamed as 15<sup>th</sup> air brigade of Slovenska Vojska/Slovenian Armed Forces (SAF) which implicated that the brigade subordinated to the army. New renaming was more recently applied for the helicopter group when in 2004 the 15 Helicopter Battalion (15 helikopterski bataljon) or 15.HEB was adopted. However the renaming suggest that only helicopters are in its inventory it actually operates also fixed wing transport planes. Simultaneously another structure of growing importance in the SAF became the flying school. Slovenia became a fully NATO member and its military including the air element transformed their operations to common NATO procedures. Like others in the alliance Slovenia participated in peacekeeping operations and deployed Bell 412 helicopters to Bosnia (SFOR 1997-2003) and Kosovo (KFOR 2007 & 2008). Other deployments included only army personnel such as with ISAF in Afghanistan and currently since May 2008 in Chad (EUFOR) under French command.

#### **JOINT AIR DEFENCE**

Slovenia appeared to be a reliable partner and tasks were adopted within Slovenia's power while other tasks were handed over to neighbouring countries. Concerning the air defence against high and medium level aerial threats the coverage of Slovenian air space by Italy (F-16 from Cervia) and Hungary (Mig-29/Gripen from Keckskemet) is welcomed. Slovenia however does have its own low level air defence and defence against aerial threats in the tactical field with man pads (SA-16 & SA-18) and the Roland system organized within the 9<sup>th</sup> Air Defence Battalion (9 ADB). Although reports said Slovenia considered for a while to acquire second handed F-16's this idea was not facilitated. With a population of approximately 2 million people it would be too expensive and while operating under NATO's shield no necessity. Slovenia sticks to were it is strong and this is helicopters. The deployments to Bosnia and Kosovo were in the own area of interest and therefore welcomed by others in the peacekeeping operations. On the other hand the request was for typical helicopter

missions and Slovenia's air brigade is perfectly utilized for this. The overall organization for all flying or aviation related units within the SAF is called Brigada Zracne Obrambe in Letalstva or BRZOL which is translated in English the Air Defence and Aviation Brigade (ADAB).

## **STRUCTURE**

Within the envelope of tasks the Slovenian ADAB obtains besides surveillance and protection of Slovenian air space and stabilization tasks in crisis response operations a third important role. Being a mountainous country with tourism and forest area, the need for civil protection, rescue and fire fighting is obvious and asks for help and support from the military which is jointly accepted with the police force and other civilian organizations. The 15<sup>th</sup> HEB and 9<sup>th</sup> ADB are in the ADAB accompanied with the 16<sup>th</sup> Air Surveillance Battalion (16<sup>th</sup> ASB) providing Surveillance and control with radar sites, a maintenance unit (MU), an airspace control unit (ACU) providing air traffic control, a logistic unit (107<sup>th</sup> Air Base) and a flight school (FS). Aircraft are divided over two locations which are Brnik, 25 kilometres north of the capitol Ljubljana and Cerklje ob Krki near the Croatian border in the Zagreb area. Originally Brnik played a main role but Cerklje ob Kriki gained more importance. Most of the units and inventory are now concentrated on this base. The intention is to use Brnik as SAR post only just because of its ideal position nearby the capitol and the tourist sites like the Julien Alps and also it is neighbouring the dry southwest region sensitive to forest fires.

Cerklje ob kriki is facing a transformation process and is in partial reconstruction for SAF and alliance use. This SAF/NATO development plans are scheduled to be completed in 2012. Key to the project was the Slovene defence minister Karl Erjavec personally. Already the silhouette of a new tower has arisen but changes concerns also enlargement with additional aprons and runway extension (to 3000 m.). Other planned provisions are a maintenance facility, arrestor cable system, RWY and TWY lights, new navigation system VORTAC, ILS, NDB, de-icing equipment, fuel storage for approximately 1.000.000 litres and weapon storage. Planned main goals are to provide generic fighter squadron handling (16 x F-16, EF-2000, JAS-39 or similar), tactical transport aircraft handling (6x C-130, C-27J or similar) and strategic aircraft handling (2x C-5 or similar). Also growing interest of the region including Zagreb foresees a substantial use by civil aircraft in near future. Slovenia merged the need for NATO use for no more than 60 day's a year for transit, fuelling, possible mechanical problems or exercises with a permanent housing of its own aircraft and creating a large commercial and economic zone with a civil terminal.

## **FLYING SCHOOL**

A splendid new hangar at Cerklje ob Krki provides shelter to the Flying School or Letalska Sola Slovenske Vojske (LETS). Students from the University of Ljubljana have to graduate for a degree in mechanical engineering becoming academic in aeronautics. In Slovenia everybody is pilot and mechanical engineer in the same time. This can be tough and in 2008 only 14 out of 48 were acceptable for the

military. Another danger is the flow to civilian companies which occurred dramatically in 2006. Today students receive a different contract and will have to stay the double period of learning which means usually four years of college and eight years service. After complying with the entry requirements the basic training in phase 1 for both fixed wing and rotary pilots includes 50 hrs on the Zlin Z242L after which PPL (A) according to JAR-FCL-1 is granted. The Syllabus contains basic manoeuvring, aerobatics, navigation, formation flying and night flying. Besides eight Zlin Z242L trainers are two Zlin Z143L aircraft in use just for the IFR training task. This is still phase 1 and it takes 20 hrs combined with 30 hrs FNPT II flight simulator training to complete IR (A). At this time the students are still in college.

The Zlins were delivered in 1994 and need maintenance on the wings. It is yet not clear if their will be a major overhaul or possibly a new acquisition of another type with higher serviceability and satisfactory back up. All Zlins are civilian registered. After the initial training the own choice or selection on skills brings a student to rotor wing pilot training or fixed wing pilot training. The flying school has four Bell 206 Jet Rangers III in service of which three were acquired in an initial batch and in late 2008 joined by an additional brand new one. The Jet Rangers are easy to fly, nice utilised and fit perfect in training courses. CPL (H) according to ICAO is in reach after 150 hrs and training includes basic manoeuvring, navigation, formation flights, emergencies and special ops like sling, hook etc. Instrument flying course takes additional 10 hours conversion from IR (A) tot IR (H).

## **PILATUS PC-9, A NEW ERA**

When the Pilatus PC-9 was introduced in Slovenia's air component it felt like a missing link was found. The type has a dual function in providing not fixed wing training only but has also a tactical role. Two PC-9 and nine PC-9M 'Hudournik' (Swift) out of a 12 purchased (one crashed in 2004) serve in the flying school. The flying phases flown on Zlin 242L&143L count toward commonly known Phase 1&2 pilot training. The first phase flown on PC-9 is named Advanced I and counts toward commonly called Phase 3 pilot training. Here, at the graduation pilot wings are awarded. Phase named Advanced II counts toward commonly called Phase 4 pilot training. The last phase on PC-9M is named Postgraduate Phase and could be referred to commonly known OCU training.

A total of 125 flying hours in the pre-graduate phase composed of general flying (48 hrs), instrument flying (18 hrs), tactical navigation (14 hrs), formation flying (10 hrs) and tactical intro including basic fighter manoeuvres (28 hrs) is needed for CPL (A). Advanced II takes another 90 hrs. When flying instructor Major Ales Štimec instructs me how to handle the Martin Baker Mk.SA11A ejection seat but only when he shouts to me eject, eject, eject the thought occurs to me; this is serious and I know he can take the plane to the edge. Later on he shows me why the type can be used as a lead-in to jet flying. Connected to the OBOG oxygen system for higher altitudes and with a HUD- repeater in front of me I imagined how strike capability would look like. The PC-9M is famous for its short rounds and on low level near to trajectories with hills it is not unthinkable when flown by a very skilled pilot the PC-9M could make an

opponent jet aircraft turning from cat to mice. Two Sidewinders can be taken on the underwing pylons but those are not in the inventory of Slovenia's ADAB. Tactical weapons such as 12.7 mm machine gun pods, Mk81/82 bombs and LAU-7/19A pods for 70 mm unguided rockets are available. Shooting practice is possible in Slovenia itself at the OSVAD / Pocek range in a deserted area in the southwest of the country. Within Western Europe comparative PC-9 aircraft serve in the air forces of Ireland and Bulgaria with the latter not capable of releasing bombs making Slovenian PC-9M's the only combat version in NATO. All Slovenian PC-9M have been modernized in the late nineties by Radom Aviation Systems of Israel and equipped with HUD, HOTAS and NVG in a glass cockpit comparable with the L-159 ALCA unit. The acquisition of the Pilatus aircraft was the main reason to establish a big new hangar at Cerklje ob Krki and in April 2000 the aircraft moved in from Brnik. Two Pilatus PC-6 turboporter transport aircraft are also based here together with a paratrooper unit but the sole LET L-410UVP-E Turbolet remains in Brnik and changed colours from red/white to grey. The three transporters subordinated in the helicopter battalion.

## **15 HELICOPTER BATALLION**

This battalion is the main workhorse in operations of SAF with four AS532AL Cougar helicopters, eight Bell 412 Helicopters ( 1 x Bell 412SP, 2 x 412HP and 5 x 412EP versions) with integrated the already mentioned L-410 and two PC-6's. The unit is 100 % staffed up with 25 helicopter pilots making an average annual flight time of 160 hr with 14 crew chiefs and 5-6 fixed wing pilots for the L-410. The PC-6's are flown by everyone and because of its incredible STOL characteristics nicknamed 'the fixed wing helicopter'. Duties can be categorized in transport ops/combat service support and in cooperation with civilian services SAR, mountain rescue missions, emergency medical service (EMS) and fire fighting missions. For the latter missions we spoke with Captain Igor Šavs. Both types have their own advantage and limitations within SAR missions. The Bell 412 and Cougar can land on the same spot (the rotor diameter is 14 and 15 m.) but the Bell is far more suitable for spots with many people and does have less downwash. The Bell 412 is quite powerful for its size and therefore is ideal for work in the mountains, especially the 412SP version with a stronger engine and the two 412HP with up rated engine.

The military Bells conduct SAR calls in the mountains in favour with the police while they are more attached to EMS work however both services back up each other when a helicopter is out of duty for example in case of a 25 hour inspection the helicopter is 5 hours out of service. The hoist is 70 m, which is normally enough. While lacking a 3 axis autopilot such as installed in Cougars the Bell 412 can experience sometimes when hovering on manual too much swing. Another reason to send a Cougar is when there are no visual conditions. In 2008 there were 101 call outs and over 100 people were rescued. Including were mountain accidents and problems with paragliding and motorcycle accidents on secondary roads. Because of the mountain work there are in summer season permanently experienced mountaineers on the base in Brnik to shorten the reaction time which is usually 15 minutes in working hours and 2 hours during the night. Igor is very dedicated to his job. When on mission he tells us the navigator knows the geography of Slovenia very

well and uses also GPS, sometimes a personal one. People must do registration on the place they spend the night so they can be tracked in the area.

The crews are experienced in fire-fighting for which they use bambi-buckets of 800-900 litres for the Bell-412 and 3000 litres for the Cougar. Normally for the Bell 412 it takes 30 hours type rating and 15 hours specific operations like hoist, NVG, or fire fighting ops to reach fully qualified status. For the cougar the training is outsourced to France while simulator training is cooperated with Switzerland. Additional training for the Bell 412 is possible at Fort Worth in the U.S.

## **INTERNATIONAL COMMITMENT**

The helicopters and the PC-9M's commonly share international exercises. Slovenia joins the SAREX exercises in Hungary where SAR techniques and medevac procedures are exercised in special settings like a simulated aircraft crash in difficult terrain. In return the Hungarian Air Force participates in the Lord Mountain exercises in the Slovenian Alps to get experience in the higher mountains. The Bell 412 was also deployed in Bosnia and Kosovo, the latter on Djakovica airfield together with the Italians. In this field the helicopters were involved in liaison work, VIP flights and border control flights with Serbia and Albania. The Cougars were used as shuttles for the crews who were frequently changed. Slovenia expects to join KFOR again, probably in 2010. To accept the work Slovenia recognizes the risks and to minimize them and very capable to execute their tasks including also special operations. In the military there is experience with CSAR however soldiers are going to do this job not with the own helicopters but in those of allied air forces instead.

On the ground could be also Slovenian forward air controllers deployable which were trained abroad like on the Dutch NLA-GOS (Netherlands Ground School). When exposed to dangerous and hostile areas the self defence units of the helicopters become very important. For both Bell 412 and Cougar there is program running. The Bell 412 is upgraded for NVG, and armament such as 7.62 mm. machinegun 2.75 FFAR rockets and chaff and flare dispensers. For the Cougar this programme is future development includes ballistic protection, missile approach warning system, electronic warfare system and medevac module and will. So far Slovenia accepts its role in the Balkan area in good relationship with the other countries in the European community. Bilateral agreements are set up with Croatia and recently Serbia marking the progress which could be made in the stabilization field.