



African Warrior Builds Momentum

South Africa's African Warrior programme is at the Partial Acquisition Plan stage and is working toward a fully integrated system

South Africa's requirement for an Integrated Soldier System with the African Warrior programme is emphasising logistic support and human factors within an incremental approach which is beginning to deliver new capability and which could potentially deliver over 20,000 systems according to the Programme Manager Nico Ras.

African Warrior's Requirement Operational Capability was approved in 1999, followed by a Staff Target endorsement the following year, the Functional User Requirement Statement and the Logistic User Requirement was finalised in 2003 with the Project Study Report and the Customer Selection for the system being approved the following year.

Nico Ras, Programme Manager for African Warrior

outlined progress so far, "We are at what we call the Partial Acquisition Plan stage where we have approved the procurement of COTS or MOTS items such as night vision and navigation equipment. We have already placed an order for a GPS system but only as secondary to our primary navigation equipment, which is still the compass, map and rule."

A Development Plan which includes items such as new sleeping and rations systems was approved in November 2008. When RFPs were issued to industry, a single local prime contractor could not be identified. Ras said, "We received different offers from industry in terms of the different items to be developed, so we are going to place three contracts for the different development items for the programme. We are in final negotiations

in terms of this development contract and we hope to shortly conclude contracts with industry as well. This will develop items for us. We will then take those items to the next level of integration in terms of the systems and the logistic support."

The African Warrior programme has six functional areas, five of which reflect standard NATO categories in the field. The sixth is human factors, which is critical to South Africa's armed forces. Ras explained, "Human factors are very important in the South African environment. We need to develop systems for eleven ethnic groups, including male and female. Several years ago, our ergonomic database only provided for white males. We cannot use the international military standards for the human, so we are busy defining the anthropometric database, defining biochemical constraints, defining the human's limits."

The C2 aspects for African Warrior will be run by a separate programme which may also acquire a new radio as part of the capability. A new protection system is also planned, which will be required to utilise the new ergonomic database as well as a new load carriage system.

"When we look at the core of the whole African Warrior development approach, it has a very human centric basis. I cannot over emphasise this human centric approach because, if I look back at our current soldier system, the human is not even mentioned."

The current equipment is collectively known as CAPES and represents the continuing use of legacy equipment. CAPES will also form the basis of planned future iterations known initially as African Warrior and subsequently as Future Project 1 and 2 in which the process of developing new equipment items will begin.



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Ras explained, "African Warrior is going to make use of the current CAPES legacy equipment, making use of current mature technology that we have available. Then we will move on to a Project Future 1 in which we will integrate a new C2 system and Future Project 2 where we are looking at an integrated helmet system which will integrate C2 systems as well. Along with this process is the ongoing technology development."

The bigger it gets, the more capable the soldier becomes. Ras commented, "When you go to an Integrated Soldier System, first of all it is a human system. We tend to forget that it is exactly the same as any other weapon system like a tank. The only difference is that you have a human involved, but we must still treat it as a system. The human is the Customer Furnished Equipment and the most important part of whole system, The human centric approach should start from day one."

In terms of the functional areas being developed to improve the capabilities of the South African soldier Ras explained, "we now need to integrate the soldier system. Once we do that we are going to evaluate the system against the user requirement to see whether we have deviated from the requirement. We have had problems in the past because the integrated logistics support was neglected, it must start with the definition of the system."

South Africa's concept for load carriage has four configurations, beginning with a six hour combat configuration with combat jacket, weapon and three litres of water. Ras said, "We are striving for a 35kg combat configuration maximum weight." The next step, the 24 hour patrol configuration, builds on that, including an overnight bag and additional water with the final step in the concept covering a six month deployment.

A new rifle is still some way off on the South African Soldier Modernisation path and in the meantime, an upgrade is being undertaken which will see upgraded new sights and Picatinny rail to meet a staff requirement for greater accuracy and a foldable adjustable stock.

The core focus areas for the power management

system are the size, weight and cost and efficiency. Ras commented, "We are going to look at an advanced power source and integrated power distribution and management systems in terms of batteries and as mentioned, weight reduction is very important."

The programme has divided the logistics package into four groups; the weapon systems which comprises the assault rifle and side arm is put on hold, the weapon electronic equipment such as Night Vision and GPS, soldier clothing systems and fielding systems which covers aspects such as food and rations.

Concluding, Ras said, "It is not an easy job, a systems approach is very expensive in the first place. We need to down scale down somewhere. I don't know where but we will decide what that will be once we start our development phase. In addition to anthropometric and biomechanical databases we will also make use of soldier systems simulation tools and we will also take the complete system into end user evaluation and they must give us the endorsement for the systems. At the end of the day, we need to follow a complete approach." Nico Ras was speaking at WBR's Soldier Technology Europe. ■



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