

## MINISTRY OF DEFENCE COLD CHAIN CASE STUDY

### Envirotainer secures delivery of life-saving healthcare medication for distribution by the UK military in South Sudan

Providing protection and humanitarian support to the people in a conflict area such as South Sudan, puts high demands on the United Nations and the supporting British military. By enabling a robust and reliable cold chain supply, the delivery of life-saving healthcare medication and medical equipment is secured, and thereby empowering the UK taskforce to support the United Nations in the protracted crisis in South Sudan.

South Sudan are currently experiencing an acute humanitarian man-made crisis which started in 2013. The past years, the situation has progressively got worse due to the fighting between the government and opposition forces in multiple locations, driving insecurity and the largest refugee exodus in Africa, with more than 4 million people displaced nationally and fleeing to neighboring countries<sup>1</sup>.

As a result, crop production has been reduced with only about 60 per cent of national cereal needs met by the recent harvest. Food insecurity is at its worst in South Sudan's history. In January 2018, nearly half the population, were severely food insecure, and 1 million people were on the edge of famine, which was brought on by the effect of the ongoing civil war. As a result, the economy is collapsing, bringing the average household income to fall by 80 per cent since 2013, exacerbating the humanitarian and security situation<sup>2</sup>.

#### Transportation challenges

To counteract the devastation South Sudan faces, the UK is at the forefront of the international response to the crisis and has long supported the pursuit of peace and stability in the country. Led by the United Nations and the international



community, the British Department for International Development (DFID) has contributed with a £440+ million multi-year humanitarian program until 2020. As part of the increased cross-government commitment, nearly 400 peacekeeping troops have been deployed to the UN Mission in South Sudan (UNMISS), making it the UK's largest UN operational deployment<sup>3</sup>.

In May 2017, the British troops arrived in Juba, the capital of South Sudan, to provide engineering and medical support at the UN camps in Bentiu and Malakal, as well as a field hospital to enable routine and life-saving medical care for nearly 2,000 UN and UK personnel in Bentiu. Operating in a country affected by civil war, in extreme heat, and bringing in and transporting equipment whilst the infrastructure is severely damaged is, however, a task with multiple supply chain challenges to overcome, as Lieutenant Commander Alex Savage explains.

"With such limited transport infrastructure in South Sudan and a reliance on the United Nations to move UK equipment around, it was essential that resilience was built into the supply chain wherever possible. One of the biggest challenges was the protection of temperature sensitive pharmaceuticals



in a hostile environment, with no guaranteed access to refrigeration at key nodes along the supply chain. The UK military needed to find a solution that could safeguard these essential commodities without impacting on the wider UN priorities for supplying the other Troop Contributing Countries.”

Firstly, access to South Sudan requires careful planning, both to gain tax exemptions and clearances which can take many weeks, and to navigate the different agencies in Juba. Once passed, the UK Task Force are entirely reliant on the UN to move equipment forward. The UK Ministry of Defense (MoD) in charge of the operation, have to bid for space with the UN, who in their turn also need space to send fuel and food supplies on the only helicopter flying from Juba to Bentiu. Flights are often delayed or cancelled due to technical or environmental issues, meaning that cargo can sit outside in excessive heat for long periods of time. Not being able to guarantee movement within the 72 hours MOD can guarantee in the passive refrigerated “golden hour boxes” risk getting precious pharmaceuticals destroyed, as these need to be kept in a meticulous temperature-controlled environment.

### **The solution**

The mission: The UK Task Force needed to find an assured mechanism to protect the equipment transported from Juba to Bentiu. After initial discussions with Envirotainer followed by a thorough mapping of the challenges to find the best solution, the RKN e1 container was chosen thanks to its robustness and reliable temperature-control. Designed for the extreme requirements of the healthcare industry, the RKN e1 container maintains product temperatures in the +2 to +8°C range. Furthermore, the container withstands some of the most extreme ambient temperatures on the planet, as is the situation in South Sudan.

One of the key challenges touches on the security side of things. Units are in most cases loaded in the UK and flown to Juba. In the other routing

alternative, the units could be flown to Malakal and shipped from there. However, several roads in South Sudan remain closed or passable only with light vehicles due to road conditions and conflict. Keeping the products physically safe from damages on a lane where the driver has to worry about several different kinds of dangers is difficult, but the robust RKN e1 unit makes the journey successfully.

Lieutenant Commander Savage explains how the solution was identified:

“The MoD went to the commercial market to identify a resilient, active refrigerant container to secure the supply of pharmaceuticals to Bentiu, South Sudan. With stringent requirements for temperature control, battery life, capacity and resilience, the Envirotainer RKN e1 met all the preconditions and was therefore selected for an initial trial. Following the success of the trial, Envirotainer has been selected as the current Defence preferred partner for active refrigerated transportation.”

### **The result**

Delivering large temperature-sensitive products needs planning, coordination and quality service. Besides the fit of the RKN e1 container in MoD’s mission, an important part of Envirotainer’s commitment was to ensure that every member of the squadron, soldiers, pharmacists and healthcare personnel that will travel with the containers was trained on how to use, understand and look after the unit.

Due to the large turnover of members on each deployment, with little or no opportunity for communication in case of trouble shooting, the MoD found it challenging to pass on the handling of the containers. This obstacle has now been eliminated following dedicated “train the trainer” training provided by Envirotainer coupled with the ease of use and handling of the units which are a main benefit after the implementation.

Certified as an air cargo Unit Load Device, the RKN e1 container ensures a reliable and seamless handling throughout the cold chain supply, all the way from the loading point until the unit has reached its final destination. And it works very well in the most trying conditions.

Eighteen months after the initial deployment, the six weekly resupplies from the UK have become routine for the MoD troops. The RKN e1 container has not failed once over this period, resupplying the UK hospital with all the required pharmaceuticals, with in their temperature ranges, despite the significant challenges. Working in harmony to solve the ultimate transportation jigsaw, which hundreds of lives depend on, Envirotainer and the MoD have made the complex much simpler.