

THE Port - Hackathon at CERN

Burst-safe Food Air Drop Bag



Summary:

Many regions around the world (e.g. South Sudan) are currently supplied by food by means of air drops from many different humanitarian organizations. The current technique is to pack the bags up to 6 times to avoid bursting. This results in high work and material costs exceeding often the value of the food.

Goals:

Alternative packing methods, the use of once only parachutes or other methods exists, but all results in higher costs. In order to optimally use the resources a minimal enforcement of the bag allowing a single packing and without increasing overall bag costs significantly seems to be the most efficient way. The bag material or the bags itself should have afterwards another use case. A test (e.g. dropping from a helicopter) could verify the successful strengthening and improvement of the bags.

Resources:

Many high-tech materials like Kevlar, Nomex, Technora and other Aramids became reasonable cheap, the vendors additionally offer very special prices for humanitarian use cases. DHL has air drop bags for 20-30 meters. i.e. from a helicopter, but would be interested to support the effort of improving them for airplane drops. ICRC uses this as a RedInnovation project.

