



# Affordable Guided Airdrop System (AGAS)

## What It Is:

**Flexing Its Muscles...**We're developing a novel airdrop system using four "muscles" that can be controlled to steer a round parachute. Known as AGAS, our system will make airdrop deliveries that are low cost, autonomous and precise.

## Why It's Needed:

U.S. forces are becoming faster, more mobile and more widely dispersed. To keep up with them, ground-based supply chains would have to grow much larger and faster. We are exploring concepts for airdrop delivery that will meet the need for "just-in-time" resupply.

## How It Works:

Our low cost AGAS consists of:

- **A Standard Round Canopy...**This approach costs less than using a steerable parafoil.
- **A Guidance, Navigation and Control (GN&C) Box...**The GN&C box can receive its ground target coordinates wirelessly prior to deployment from the transport aircraft.
- **Pneumatic Muscle-Control Actuators...**After the AGAS is deployed from the aircraft, the GN&C box controls the actuators to steer the load and maintain an accurate trajectory. The actuators pull the canopy risers to correct the canopy's path onto a predetermined flight profile.

## Benefits:

**Improved Accuracy...**AGAS will make accurate deliveries for both military and humanitarian resupply.

**Reduced Costs...**Ground-based systems will need fewer supplies with the AGAS in use. With a more accurate delivery, fewer missions will be repeated—meaning a drop in the flights and material used.

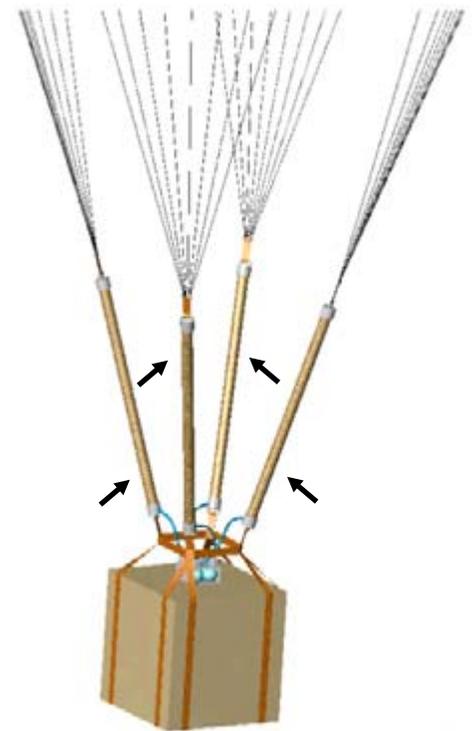
**Increased Mobility...**U.S. forces could be more widely dispersed and still obtain supplies in any weather. In addition, each load could be programmed to target different drop zones and recipients.

**Reduced Risk...**Air crews and aircraft will be able to drop loads from higher altitudes and longer offset distances.

## Point of Contact:

Airdrop/Aerial Delivery Liaison

COMM: (508) 233-4495



**Each of the four muscles can be controlled to change the canopy shape which steers the parachute**

**NATICK  
SOLDIER  
CENTER**

Kansas St.  
Natick, MA  
01760  
nsc.natick.army.mil