Defibrillator Drone Precision Lander

Background
The Swedish Sea Rescue Society is aiming to set up a coastal network of small, remotely launched fixed wing drones for early situational awareness. The choice of a small, light and soft fixed wing is to minimise risk to third parties on the ground and in the air as technology and regulations to fly safely beyond the pilot’s line of sight are still developing. How might we extend this future system to deliver further benefits?

Problem description
In Out of Hospital Cardiac Arrests, the chance of survival is greatly increased if an Automatic External Defibrillator (AED) is used within the first couple of minutes. In rural areas the ambulance will often not arrive soon enough.

We would like to explore the possibility of delivering AED:s by means of our planned fleet of fixed wing drones. To do this we would need a system where the remote operator could choose whether to bring the AED or not at the launching moment. The AED would then be dropped from a safe altitude. In order to deliver the AED safely and precisely it would need to have a landing mechanism which could navigate it to a point chosen on the video stream from the fixed wing drone, and to slow it down to the point where it would pose no harm to persons on the ground.

Objective
Develop a very small and light precision lander that can be dropped from a fixed wing drone. We envision shrouded quadcopter with just enough energy to perform one safe landing, but solutions might include a guided parachute, a ballistic drop with airbag landing, etc. We are open to any suggestions!

Target group: Z, M, D, F
Number of students: -
Prerequisites:
Links: surtsey.org/projects/defibrillator-drone-lander
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