

AED/Winching System for VTOL Drones

Contactgegevens

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Problem Statement and Motivation

Helicus is an Antwerp based startup, working to realize the transport of medical goods (e.g. biomedical samples, pharmaceutical products and donor blood) via drones. Helicus is developing an ecosystem of partners supporting unmanned aviation between medical actors across a city or region: the Helicus Aero Initiative (HAI). More concretely, HAI aims to provide a solution for integrated automated drone fleet management for medical goods.

Some of the deliveries that need to happen in the medical drone sector will be to destinations that do not have a fixed/safe landing spot. An example of such a scenario is the delivery of an automated external defibrillator (AED) to an emergency site, such as the location of an accident. In this case, landing the drone will not be possible, so a solution is needed to design packaging for such an AED, and a method to lower this package onto a site. This solution needs to be secure, repeatable, and compliant with standards that exist within the aviation world.

Thesis Statement

Research question:

- Evaluate last design of AED packaging and winching system to hoist for emergency scenarios
- Adapt design for commercialization/industrialization
- Build prototype
- Test prototype
- Integrate the solution (controlled and monitored) into the existing Helicus Command and Control Center.

More Information

- Preferably a duo thesis
- Fields of activity: mechanical design, medical equipment, programming
- Hybrid: online/Helicus office at Sint Pietersvliet 7, 2000 Antwerp