

VOLATUS CASE STUDY **AED ON THE FLY**

DDC4003



AED ON THE FLY

INTRODUCTION

Drone Delivery Canada (“DDC”), a Volatus Aerospace (“Volatus”) company implemented its proprietary FLYTE software system and Sparrow remotely piloted aircraft (“RPA”) to deliver Automated External Defibrillators (“AEDs”) to simulated cardiac arrest patients. The “AED on the Fly” initiative achieved an 100% success rate, demonstrating that DDC/Volatus’ drone delivery platform can significantly reduce response times by enabling rapid deployment of first responder technology via drones.

CHALLENGES & OBJECTIVES

Ambulance response time plays a critical role in the likelihood of survival in out-of-hospital cardiac arrest (“OHCA”). Studies have shown that shortening ambulance response time increases the survival of patients experiencing OHCA. The objective of this project was to assess whether drone delivery of AEDs could reduce response times and potentially save lives.

SOLUTION

DDC/Volatus conducted a pilot project to determine the effectiveness of delivering an AED via drone versus a traditional ambulance. The AED on the Fly pilot project involved three phases.



SOLUTION

Phase 1: The Township of Caledon simulated 911 emergency calls and the Region of Peel dispatched the Sparrow equipped with a specialized first responder payload that included an AED. The delivery time of the drone was then compared against the traditional dispatching of first responder paramedics. The Sparrow arrived on-site ahead of the traditional responder vehicles in all simulated tests.

Phase 2: The Sparrow with the new cargo drop functionality and audio announcement system were used to drop an AED where a designated lay bystander retrieved the AED and applied it to a simulated cardiac arrest patient in a rural environment. Multiple different bystanders and locations were used to test the AED Drone solution.

Phase 3: Simulated 911 call locations were sent electronically to DDC/Volatus' Operations Control Centre ("OCC") and the Sparrow was dispatched from a Peel Paramedic station in Caledon to the destination and back. Real-time remote monitoring occurred from the OCC using DDC/Volatus' proprietary FLYTE system software.



RESULTS

Compared to a land-based vehicle, the AED had a shorter travel time via drone – a major factor in responding to cardiac arrest. The testing validated that using DDC/Volatus' proprietary drone delivery platform with cargo drop functionality to deliver rapid first responder technology via drone may reduce response time to cardiac arrest patients in the field while being utilized by lay responders.