



## Project CAELUS

An Innovation project for a drone network to support healthcare logistics in Scotland and beyond



# Consortium Partners

The project part-funded by Innovate UK Future Flight Challenge



The consortium is led by AGS Airports and with the support of the NHS in Scotland.





# About Project CAELUS

Care & Equity - Logistics UAS Scotland

Project CAELUS is an Innovation project. The team seeks to demonstrate a **drone-enabled medical logistics network for Scotland**, serving a variety of **validated real-life use cases across urban and rural environments**”

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## A “once for Scotland” approach

**Health Secretary Humza Yousaf** has said drones could be a “game-changer” in how the NHS delivers healthcare for patients in the Highlands and Islands...We are also very interested and very excited and will support health boards and partners in any way that we are able to do so.”  
(Press & Journal, 28/06/2022)



“...if there is one story to take away from this entire conference, **it is about the social benefit of what we are trying to do.**” -Gary Cutts, Challenge Director, Future Flight, UK Research and Innovation. (Connected Skies Summit, British Transport Museum, 18/05/2022)



# A “once for Scotland” approach

- 26% of Scotland’s population lives in 69% of the landmass.
- 70 miles from Moray Coast to ARI
- Acute Myeloid Leukaemia in aging population
- 7 day cycles of chemotherapy injections every 28 days



- Keeping patients at home in with their support networks around them
- Reducing need for patient travel and costs
- Reduction in carbon footprint

# What do we mean by drones?

A drone is like an automated aircraft, remotely piloted or monitored.

We seek to demonstrate the benefits of 2 types of drones, a smaller and bigger drone, matching different user cases and covering the whole of Scotland.

## **Skyports**

Swoop Kite  
VTOL

Autonomous  
Zero emissions

Payload 3 kg

Range 225km

Weather can fly in rain, 35kts  
wind and icing conditions

## **Dronamics**

Black Swan model (aircraft)  
Small fixed wing, unmanned

Fuel efficient

Cargo capacity of 350kg

Range >2,500km

Speed Up to 180kph/112mph

Altitude 15,000ft



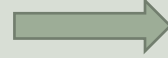
# NHS Use Cases:

## Example services unlocked by CAELUS



### Local Chemotherapy Administration

Chemo, prepared in a specialist lab, can be transported to the patient in a tight time window.



- Reduces patient travel time, stress and cost by removing the need to travel to specialist centres.



### Faster blood product cross-matching

Reduced turn around time between patient, lab and blood supplies.



- Faster emergency treatment.
- Better patient outcomes.
- More efficient use of blood products.



### Faster Lab Testing

Reduced turn around time between patient and lab to provide targeted antibiotics.

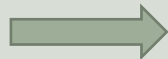


- Reduces antibiotic resistance.
- Better patient outcomes.
- Shorter hospital stay.



### Faster Emergency Medicine

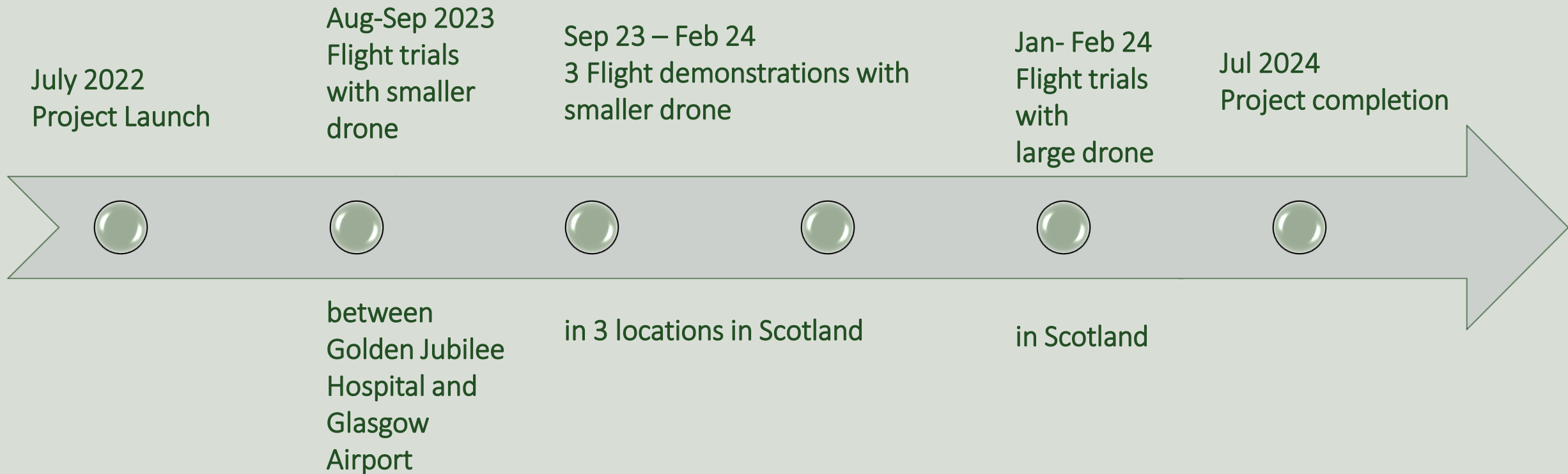
Reduced delivery time for specialist / emergency medicines that cannot be stocked locally.



- Better patient outcomes.
- Shorter hospital stay.

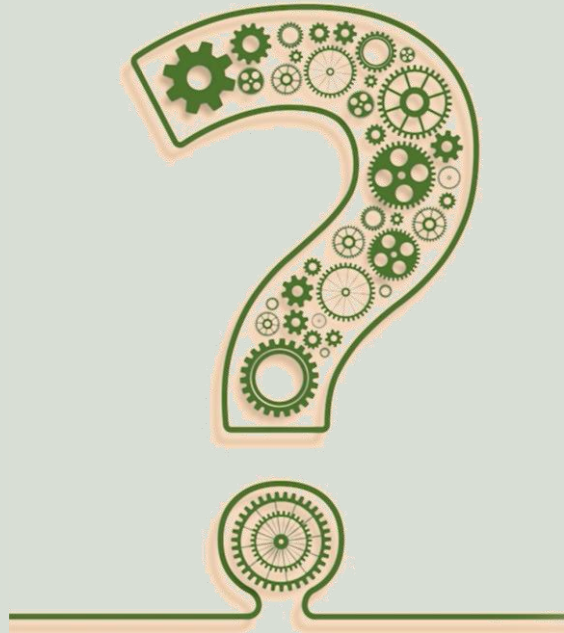
CAELUS would enable samples and supplies to be delivered rapidly, within a time controlled window with medical grade, temperature controlled and monitored packaging that is critical to the success of treatment

# What is our timeline specifically for flight demonstrations?



Air operations are regulated by the Civil Aviation Authority, the CAA. The CAA is the UK's aviation regulator and work so that the aviation industry meets the highest safety standards  
All flight demonstrations are subject to prior approval by the CAA, and timeline is subject to change.





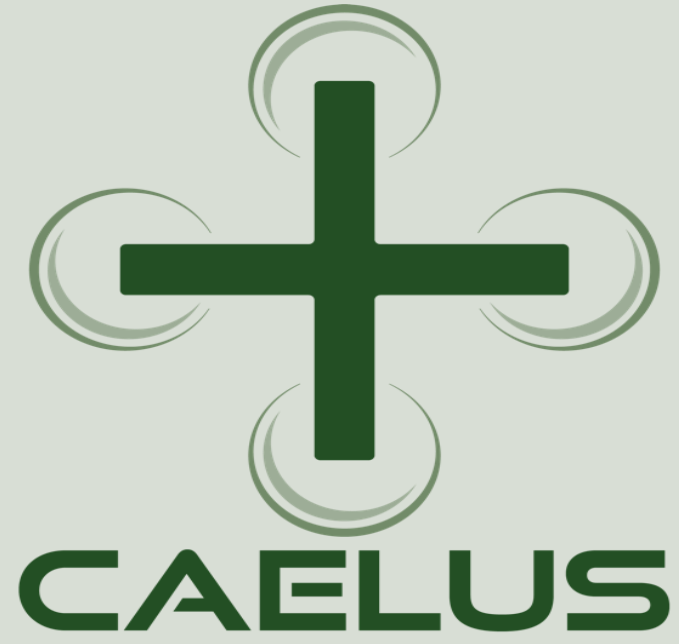
# QUESTIONS?

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