Preparing the UK for UAM Operations







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AIRMAP

LAUNCH EVENT 2018

- First UAM summit ever in the UK
- 120+ attendees
- 80+ organisations
- Official kick-off for the UK ecosystem
- Mission: to enable UAM operations in the UK by 2025



NEXA Capital Partners, LLC NEXA Capital powers the industry

VOLOCOPTER

THE

PROJECT

UAM ADVISORY

- Advising the Department for Transport at their Transport Futures event
- NEXA Urban Air Mobility: Economics and Global Markets
- UAM Workshop at the CityTech 2019 in Milan and building a programme for UAM operations at the 2026 Winter Olympics



THE





WHY UAM?

CONGESTION OR CONNECTIVITY?





HISTORIC UK AERIAL MOBILITY

- Gatwick Heathrow Airlink (1978 1986)
- Sikorsky S-61N Sea King with 28 passengers
- 10 return trips per day taking 15 minutes each
- £12 per journey (approximately £75 in today's money)
- Profitable but it was a "highly controversial issue" – Nicholas Ridley (Secretary of State for Transport)



WHY DID IT FAIL?

- Noise complaints by some residents under the flight path
- Privacy issues for residents being overflown
- The **perception** of public backlash by politicians was even more crucial
- Airlink ceased operations 4 months after the M25 was completed as this was considered a better alternative



"Reasonable" transportation alternatives will prevent mass adoption in the UK

THE

ENSURING LONG TERM OPERATIONS

FIRST UAM ROUTES

- Use of existing GA infrastructure such as small regional airports aerodromes
- Use of existing aircraft like helicopters and even fixed wing to build market share and introduce the concept to the public
- Scheduled inter-city routes over sparsely populated areas to improve connectivity and avoid noise complaints



<u>Avoid inner city</u> flights during early operations

THE

ROUTE DEVELOPMENT METHODOLOGY

Data-driven approach incorporating:

- Dynamic demand forecasting for ground transportation
- Point-to-point travel mapping including first and last mile
- Pricing engine to ensure a competitive trade-off between journey time and travel costs whilst **maintaining profitability**



MARKET OPPORTUNITY





EXAMPLE: OXFORD – CAMBRIDGE

Approximately 100km (point-to-point)

Rail

- Average duration approx. **3 hours**
- 2-3 changes via London
- Approx. £60 (standard class)
- Approx. **£90** (1st class)

Coach

- Average duration approx. 4 hours (off peak)
- Subject to disruption on the M25
- Approx. £15 (National Express)





EXAMPLE: OXFORD – CAMBRIDGE

Helicopter (Airbus H135)

- Average duration approx. **30 minutes** flight time
- Approx. **£2,000** per flight hour including landing fees etc. (charter rates)
- Can be reduced to approximately **£150** with ridesharing across 7 passengers
- Early surveys suggest that this would create demand for the luxury and business travel markets but would need to be less than £100 to capture mass market



Possible to use existing nearby airports

PUBLIC ACCEPTANCE?



PUBLIC SUPPORT?

AWARENESS

- Increase public awareness and understanding through outreach
- Use approachable terminology "Electric Helicopter" vs. "Passenger Drone" or "Flying Car"
- Reduce the perception of disruptive technology i.e. users should see UAM as the next logical step in commercial flight as opposed to a revolution



UTILITY

- Scheduled, low cost routes for mass adoption, not just on-demand air taxis targeting "wealthy elites"
- Aim to connect areas with poor rail connections as opposed to reducing time on existing routes that are simply congested
- Public consultation





TECHNOLOGY

Perception of safety through design:

- Fixed wing (for gliding in the case of failure)
- Parachutes
- Avoid autonomy





MAKING UAM RESILIENT



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