Optimal Solution of VTOL Excellence

Dr Seyed Mohseni

Samad Aerospace

ORGANISED BY FARNBOROUGH INTERNATIONAL

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CEO of Samad Aerospace

MSc Aerospace Propulsion and MBA and Doctorate in Gas Turbine Technology from Cranfield University

Identified the potential of e-VTOL aircraft in the market

Set-up Samad Aerospace in 2017 to develop a range of e-VTOL aircraft that redefine the way humans and goods fly around the world

Assembled a team of world-renowned expert to drive innovation and design in Samad Aerospace

Global Urban & Advanced Air Summit
2-3 March 2022
SHAPING THE FUTURE OF AIR TRAVEL

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Market Reality

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Intra-city travel

- At least a decade away
- Operational certification not ready
- User shall still require the capability to get to vertiport or be exclusive
- Not competitive with other electric modes of transport for total journey time

Inter-city travel

- Certification already exists
- Infrastructure located on limits of city connection lines
- Key to market: time saving
- Flexible for the future

Unmanned aircraft

- Operational certification limited 600kg MTOW (light UAS)
- UAS certification in development
- Cargo deliveries first
- Key to market: Time saving

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Barriers to Market Entry

SAMAD AEROSPACE

Infrastructure

- Vertiport location and flexibility
- Links to existing infrastructure
- Electric aircraft impact on National Grid and energy demand

Technology

- Rapid charging capabilities and facilities
- Power requirements
- ATM and UTM capabilities

Social Acceptance

- Take-off/ landing noise and fly over noise
- Increase in airspace users
- Ticket cost and affordability
- Sustainability vs other electric vehicles
- Safety

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Technical Reality

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Most companies are undertaking test flights

VTOL power requirements limit range of electric aircraft to 200 miles

Safety must be ingrained in vehicle during VTOL stages

Vertiport design developing rapidly with rapid charging, sustainable operations, and connectivity solutions

ATM/UTM preparation for increasing airspace congestion

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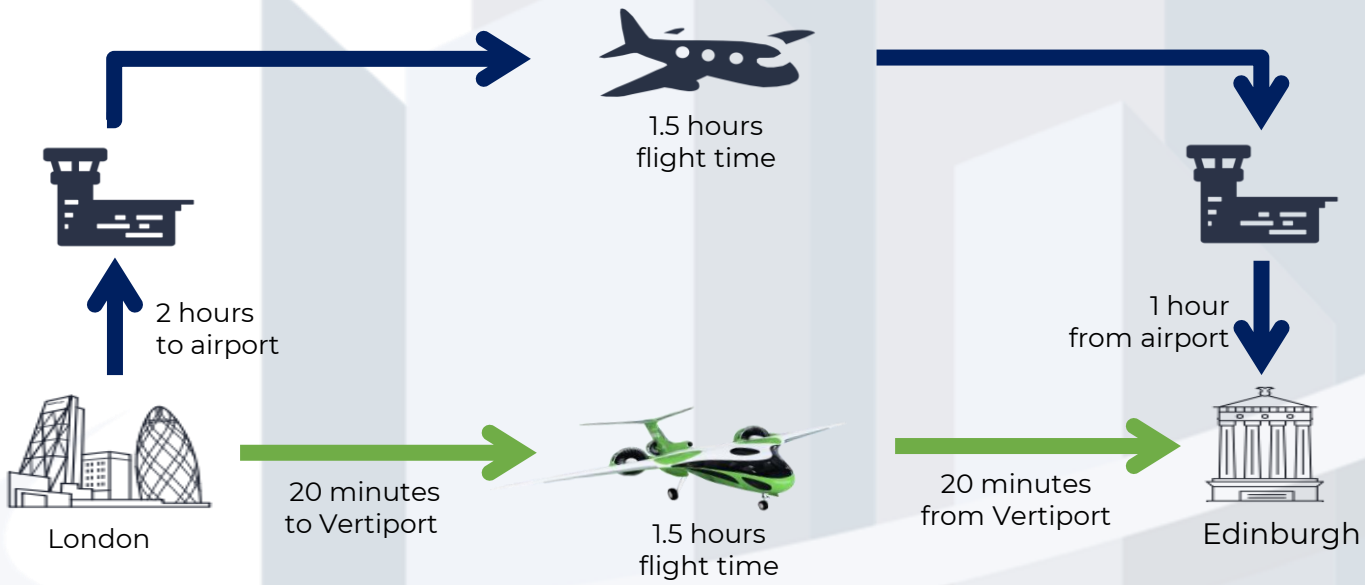
Samad Aerospace Vision

Samad Aerospace aims to provide safe, sustainable and efficient inter-city travel solutions. London to Edinburgh takes 4.5 hours total travel time by conventional flight or train, where a Samad Aerospace aircraft will achieve the same in just 2 hours.



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Samad Aerospace's Solution

Starling Cargo

Unmanned electric VTOL aircraft for mid mile delivery

Length:	6.8 m
Wingspan:	8 m
Payload:	50 kg
MTOW:	600 kg
Cruise Altitude:	10,000 ft
Speed:	95 mph
Range:	140 miles

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Samad Aerospace's Solution

E-Starling

Hybrid/electric VTOL aircraft for intercity travel

Pax:	5 +1 pilot
MTOW:	3125 kg
Length:	13.5 m
Wingspan:	15 m
Cruise Altitude:	12,000 ft
Speed:	300 mph
Range:	800 miles

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Route to Operation

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End goal

- Fully certified passenger aircraft by 2026
- Intercity flights operating from city limiting vertiports/runways

Next stages

- Starling Cargo certified by 2024
- Full scale E-Starling built, and test flights initiated
- Infrastructure ready for cargo operations under light UAS

Current State

- Full scale Cargo aircraft built, and test flights initiated
- Working with partners to develop the infrastructure

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Senior Team

SAMAD AEROSPACE

Seyed Mohseni
CEO-Founder

Mohammad Reza M.
Head of Operations

Prof. Iain Gray
Chief Strategy Advisor

Prof. John Fielding
Chief Design Advisor

Amir Edalatian
Commercial Advisor

Glenn Waters
Head of Advanced Tech.

Richard Abbott
Head of Airframe

Norman Wijker
Chief Designer

Steve Wright
Head of Avionics

Marwan Maurizio Chedid
Certification Specialist

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Key Partners and Supply Chain

SAMAD AEROSPACE

Key Partners

STRAND

SAFRAN

Samad Power Ltd

aerodyne

TURQUOISE

Finance | Energy, Environment, Efficiency

Cranfield University

Our key partners and supply chain are essential to achieving our company vision of providing efficient intra-city travel

Supply Chain

E-Props

MGM COMPRO

amte power

SCHUBELER TECHNOLOGIES GmbH

ROTEX electric

Cranfield Aerospace Solutions

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Samad Aerospace Achievements

The first 10% scale flying prototype tested successfully - 2018

Demonstration of 20% scale prototype at Farnborough 2018

e-Starling concept design in collaboration with Cranfield University-

Development of test-rigs for Avionics and Propulsion system tests- 2019

20% scale flying test platform for flight control system built + tested-2019

Successful CTOL flight of the S5-U- 2020

Successful VTOL flight of the S5-M 2021

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Samad Aerospace Achievements

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Samad Aerospace Achievements

Thank you for listening

For General enquires please contact: business@samadaerospace.com

For Sales enquiries please contact: sales@samadaerospace.com

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