



EASA DOA for Start-Ups.

Bhavesh Mandalia, Chief Airworthiness Officer and Deputy CTO
October 2023

2015

FOUNDED
IN MUNICH

800+

EMPLOYEES
2/3 IN PROGRAM
AND ENGINEERING

58+

NATIONALITIES
FROM 6 CONTINENTS

10,000 M²

MANUFACTURING
FACILITIES

\$ 1.4 BN

TOTAL
FUNDING



LISTED SINCE
SEPTEMBER 2021



German-based aerospace company
founded in 2015 and
listed on Nasdaq in 2021



Global leader in electric jet aviation
with unique aircraft design and
proprietary technologies



~800 employees, including 450+ engineers
with deep aerospace experience



Co-located and fully integrated
design, prototyping, testing,
and production capabilities



Most advanced electric jet aircraft program in
regulatory approval process,
with expected market entry in 2025

Engineering / Design Organisation Leadership

DOA Nominated Persons (EASA Form 4)

Alastair McIntosh
Chief Technology Officer



Chief Engineer & MD of Rolls Royce



Engines of Airbus A350 and Gulfstream G650

Axel Trappmann
Head of Engineering Safety, Quality & Compliance



Former Head of Approvals, Investigations and Standards at Airbus Helicopters



Bhavesh Mandalia
Chief Airworthiness Officer & Deputy CTO



Former General Manager and Head of Design Organisation at Boeing



Stephen Vellacott
Chief Engineer



Former Chief Airworthiness Engineer at Calidus



Christophe Hommet
Head of Flight Test & Chief Engineer Phoenix



Former Chief Engineer Utility Drones Volocopter



Tom Brassington
Head of System Design



Former Head of System Engineering at Marshall Aerospace



Mattia Nardi
Head of Lab Test & Experimental

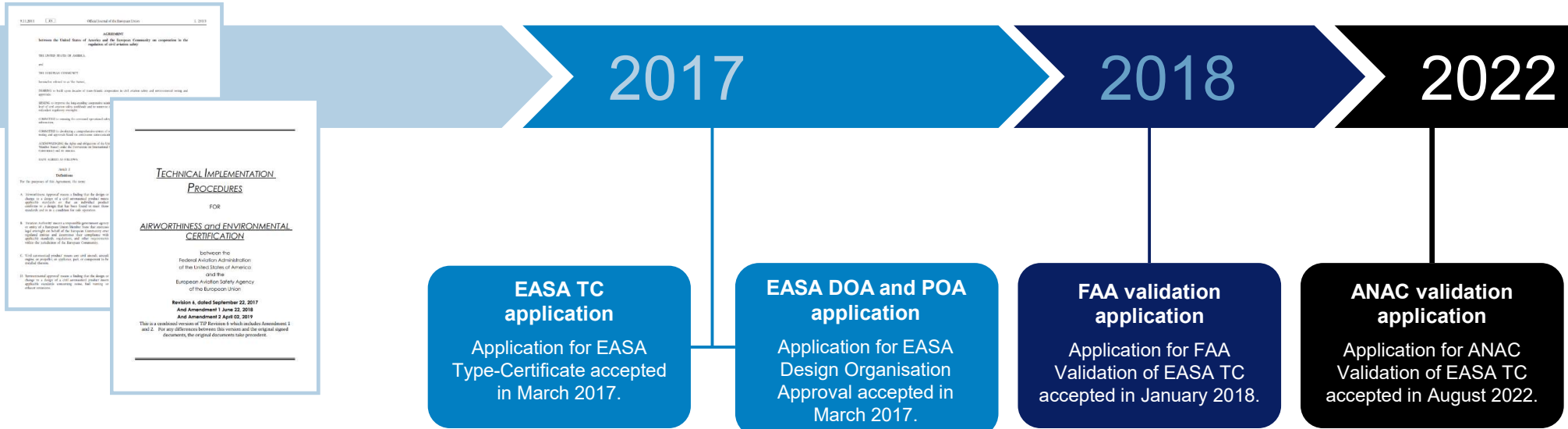


Former Test Engineering Manager at Umbra Group



PREVIOUS ROLES

Certification and DOA/POA Timeline of engagements



Application for FAA and ANAC Validation of EASA TC, submitted under the provisions of the existing Bilateral Aviation Safety Agreement (BASA) between the EU / USA and EU / Brazil and Technical Implementation Procedures (TIP) between EASA, FAA and ANAC.



Order pipeline of 750 aircraft

First pre-delivery payments received

NETJETS

- Right to order up to 150 Lilium Jets for fractional program
- Support for Lilium Jet sales to private individuals

EMCJET

- Right to order up to 20 Pioneer Edition Jets
- Support for Lilium Jet sales to private individuals

Bristow

- Right to order up to 50 Lilium Jets
- One of the largest helicopter operators in the world
- Potential Part 145 partner in the United States



Source: Company information and public press releases. Final commercial terms are still being negotiated and remain subject to definitive documentation.

eVOLARE

- Right to order up to 20 Lilium Pioneer Edition Jets
- Premium sustainable demand in UK market

GLOBEAIR

- Right to order up to 12 Lilium Jets
- Premium demand in French Riviera and Italy



- Right to order up to 5 Lilium Jets
- Premium demand in Southern Spain



- VIP helicopter and private jet operator
- Sustainable high-speed travel between Greek islands



- Right to order up to 220 Lilium Jets
- One of the world's leading helicopter and Business aviation market



- Right to order up to 40 Lilium Jets
- Sustainable Scandinavian air mobility



- Right to order up to 6 Lilium Jets
- Premium demand in Benelux



- Right to order up to 5 Lilium Jets
- Premium demand in Switzerland and Italy



- Right to order up to 100 Lilium Jets
- Network across Saudi Arabia



- Right to order up to 100 Lilium Jets
- Able to serve >85m people in the Greater Bay Area
- MoU with Bao'an District of Shenzhen municipality to launch eVTOL service in China

EASA & FAA Regulatory Framework



Air Operations



New EU Air Ops requirements, Part-IAM proposed in 2022 now published in opinion 2023-03.



New SFAR for operational requirements for powered lift aircraft proposed in 2023.

Air Traffic Management



Leveraging existing regulatory framework (SERA) and national regulatory frameworks.



Leveraging existing regulatory framework for initial operations. New requirements under development.

Air Crew



Transitional provision proposed in 2022 now published in opinion 2023-03 and CM-FCD-001, in 2022.



New SFAR for operational requirements for powered lift aircraft proposed in 2023.

Infrastructure



Utilizing existing helicopter sites and aerodromes with spec. for vertiports proposed in 2022 (PTS-VPT-DSN).



FAA Vertiport Design , Engineering Brief No. 105 published in 2022 and new AC to be finalized in 2024.

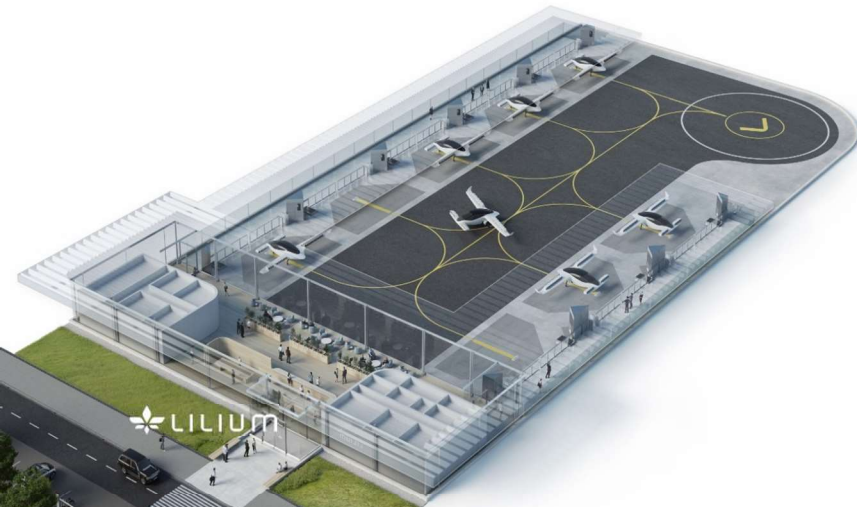
Initial Airworthiness



EASA published special conditions for airframe and electric engines in 2019 / 2020.



FAA have proposed special class airworthiness criteria for powered lift to Lilium in 2023.



The Lilium Jet



HIGH-SPEED

135kt

250KM MAX RANGE

175KM OPERATING RANGE¹

LOW NOISE

68dBA at 100m¹

ZERO EMISSIONS

FULLY ELECTRIC¹

HIGHEST SAFETY

10⁻⁹ SAFETY LEVEL²



Source: Architectural performance assessment of an eVTOL aircraft. Lilium engineering assessment. Management estimates.¹ Performance targets based on current development status of aircraft. Cruise speed based on Lilium engineering assessment assuming flight at 10,000 ft. Range refers to physical range (service range + reserves).

² Lilium's primary certification authority stipulates probability of a catastrophic failure must not exceed 10⁻⁹.

Robust supply chain with leading aerospace suppliers

Starting the assembly of the Lilium Jet by end of 2023

Honeywell

Avionics and flight control computer

ACITURRI

Aerostructures

Expliseat

Seats

DIEHL

Interior, interior lights and floor

AERONAMIC

Engine rotor blades and engine shaft

AERnova

Aerostructures

Collins Aerospace

Inceptor system



L3HARRIS™

Data recorder

MAGROUP

Landing gear, wheels and struts

ASTRONICS

Energy management system

CUSTOMCELLS®

Cells for batteries

Honeywell | DENSO

E-motors for the engine

GEN

Electrical Wiring Interconnection System

SKF®

Electric motor bearings

LILIUM

Source: Company information; management estimates.

DOA Audit Progress



AUDIT #1 – May 2021

- Organisational Construct
- Design Subcontractors
- Competencies
- Independent System Monitoring
- Interview of Management Staff

AUDIT #2 – April 2022

- Type Investigation
- Configuration Management
- Design / Production coordination
- Concessions

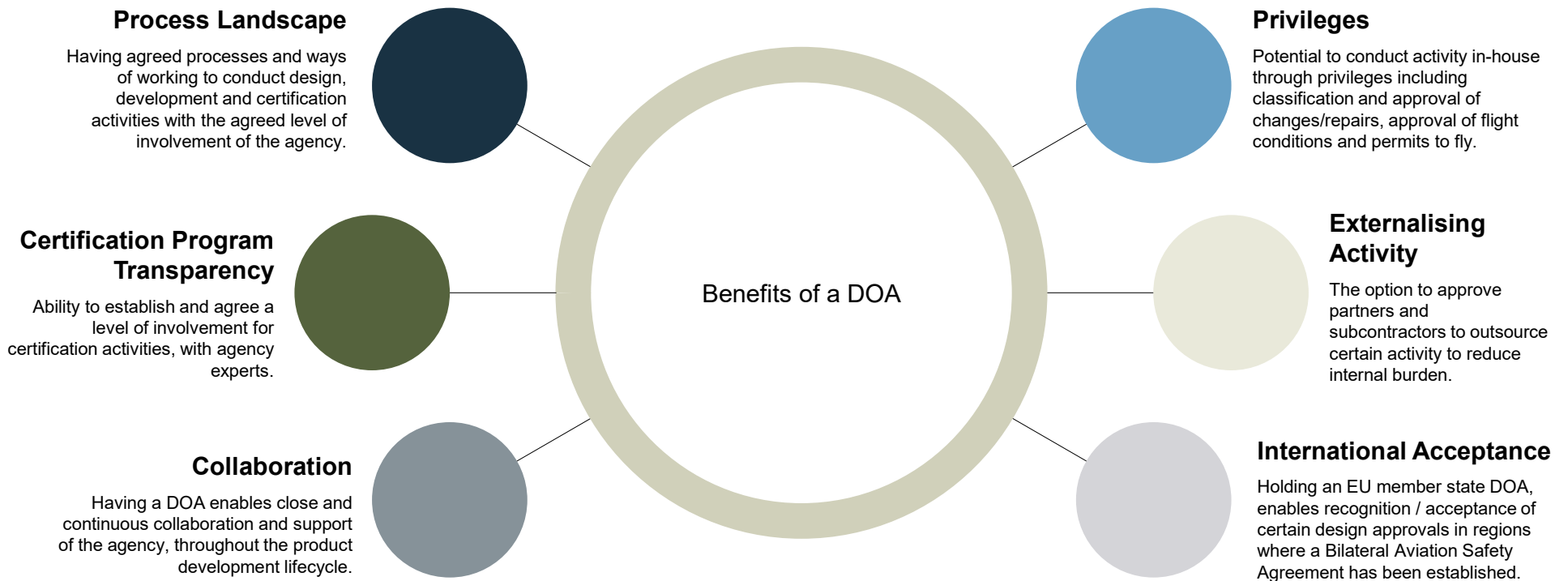
AUDIT # 3 – December 2022

- Compliance Demonstration including Testing (Laboratory / Ground)
- Manuals
- Instructions for Continued Airworthiness

AUDIT #4 – June 2023

- Compliance Demonstration related to Flight Testing including Flight Test Operations Manual (FTOM)
- Permit to Fly and Flight Conditions Approval
- Operational Suitability Data

Benefits of a DOA



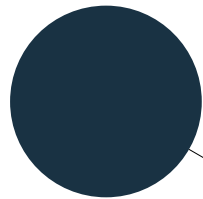
Challenges relating to Compliance Verification Engineers



Challenges relating to Part 21 and other regulatory updates

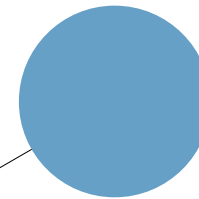
Safety Management System

SMS updates to Part 21 came into effect in March 2023. But AMC and GM are still under development making it difficult for a new DOA to fully comply.



Opinion 03/2023

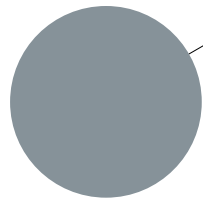
Further changes to initial airworthiness are expected for eVTOL certifying organization, upon adoption of opinion 03/2023.



Challenges relating to Part 21 and other regulatory updates

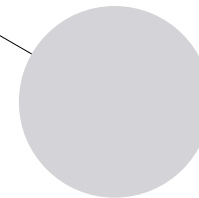
Operational Suitability Data

The evolution of operational requirements for eVTOL aircraft are challenging for a new DOA to include the level of detail necessary for a TC holder DOA..

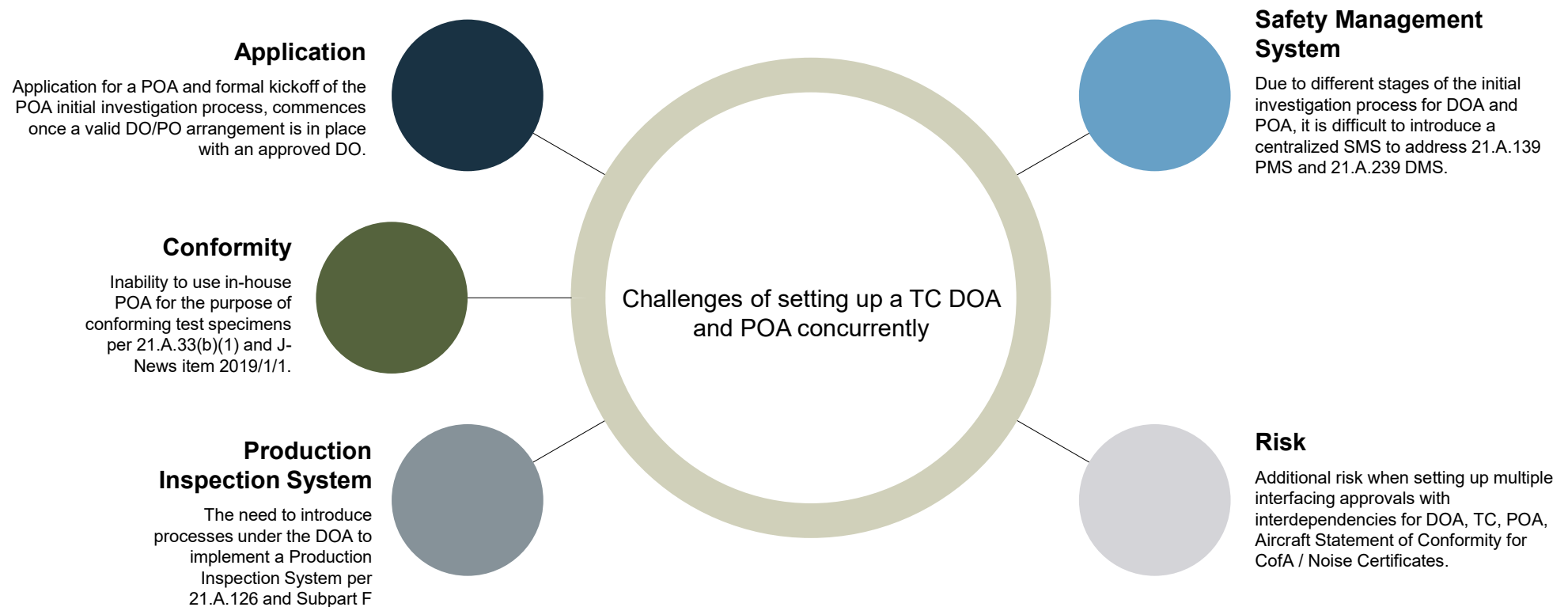


Aircraft Certification Basis

Unlike conventional products where the airworthiness requirements and AMC are well established, the fluidity in eVTOL airworthiness criteria impact the required detail in DOA processes for TC of this category of product.



Challenges of setting up a TC DOA and POA concurrently





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Given these risks and uncertainties, you should not rely on or place undue reliance on these forward-looking statements, including any statements regarding when or whether any strategic collaboration between Liliium and the respective collaborator will be effected, the number, price or timing of any Liliium jets to be acquired (or if any such Liliium jets will be acquired at all), the price to be paid therefor and the timing of launch or manner in which any proposed eVTOL network or anticipated commercial activities will operate, or statements regarding the Liliium Group’s business and product development strategies or certification program. Actual events or results may differ materially from those contained in the projections or forward-looking statements. 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