

Certification comes first, not last

Dr. Sebastian Seemann
CTO VÆRIDION



**Certification
Conference**

*October 24, 2023
Cologne*

Certification Pathways – 3 RAM Categories

A. Electrification retrofit of certified combustion engine aircraft:

- Standalone engine / ETSO not certifiable
- Limited mission performance

- Considerable certification effort, no clear time & cost advantage
- Risk of being stopped during development

B. New conventional aircraft with simple electric propulsion system:

- Perfect match with EASA approach
- Best achievable mission

- Optimal balance of certification time, cost, and risk



C. New disruptive aircraft with ambitious electric prop. system:

- Reliance on unconventional technologies
- High degree of system complexity

- Negative mass and complexity spiral causing major design pivots, cost, and delay
- Extreme certification effort and risk

The Core Team



Ivor van Dartel
Chief Executive Officer
MSc Aerospace Engineering



Dr. Sebastian Seemann
Chief Technology Officer
PhD Aerospace Engineering



100+

years of passion in
aeronautics

14

nationalities
worldwide

6

Electric Aircraft
programs



Markus Kochs-Kämper
VP Engineering



Moritz Schuhmann
Senior Electrical Systems
Engineer



Dr. Srinivas Vasista
Structure and Manufacturing
Lead Engineer



Evan O'Connor
Mechanical and Materials Lead
Engineer



Dr. Nando van Arnhem
Aerodynamics Lead Engineer



Serkan Uyar
Airframe Lead Engineer



Douglas Costa
Lead Propulsion Systems Engineer



Victoria Dalceno
Project Engineer



Bozhena Hryvnak
Business Manager



Cristina Ortega
Aircraft Systems Engineer



Jasper van Wensveen
Overall Aircraft Design &
Integration Engineer



Jacob Chinnan
Senior Simulation Engineer



Salma Mrabet
Electrical Systems Engineer



Siju Sasidaran
Thermal Lead Engineer



Geerte van der Linden
Office & Community Manager

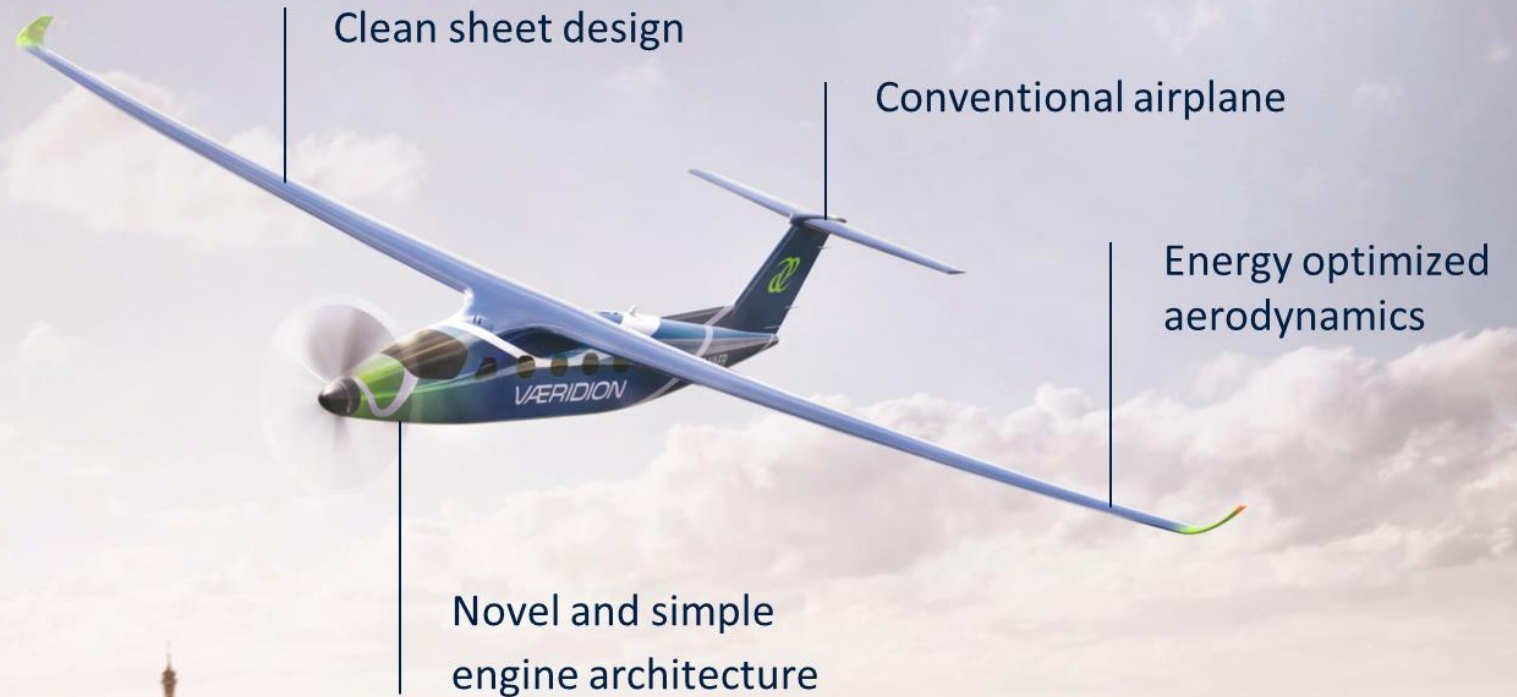


Markus Ekert
Founder's Associate / Finance



True Sustainable Air Transport Before 2030

VÆRIDION



Zero new infrastructure.

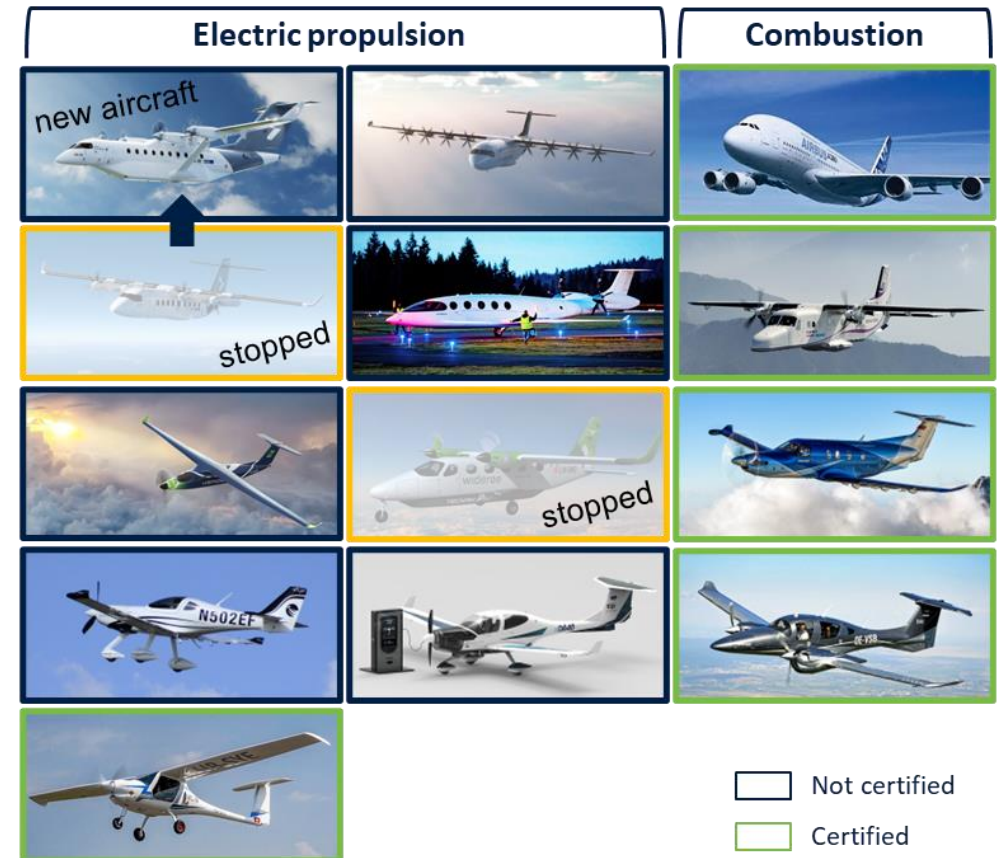
Highest energy efficiency.

Fastest route to certification.

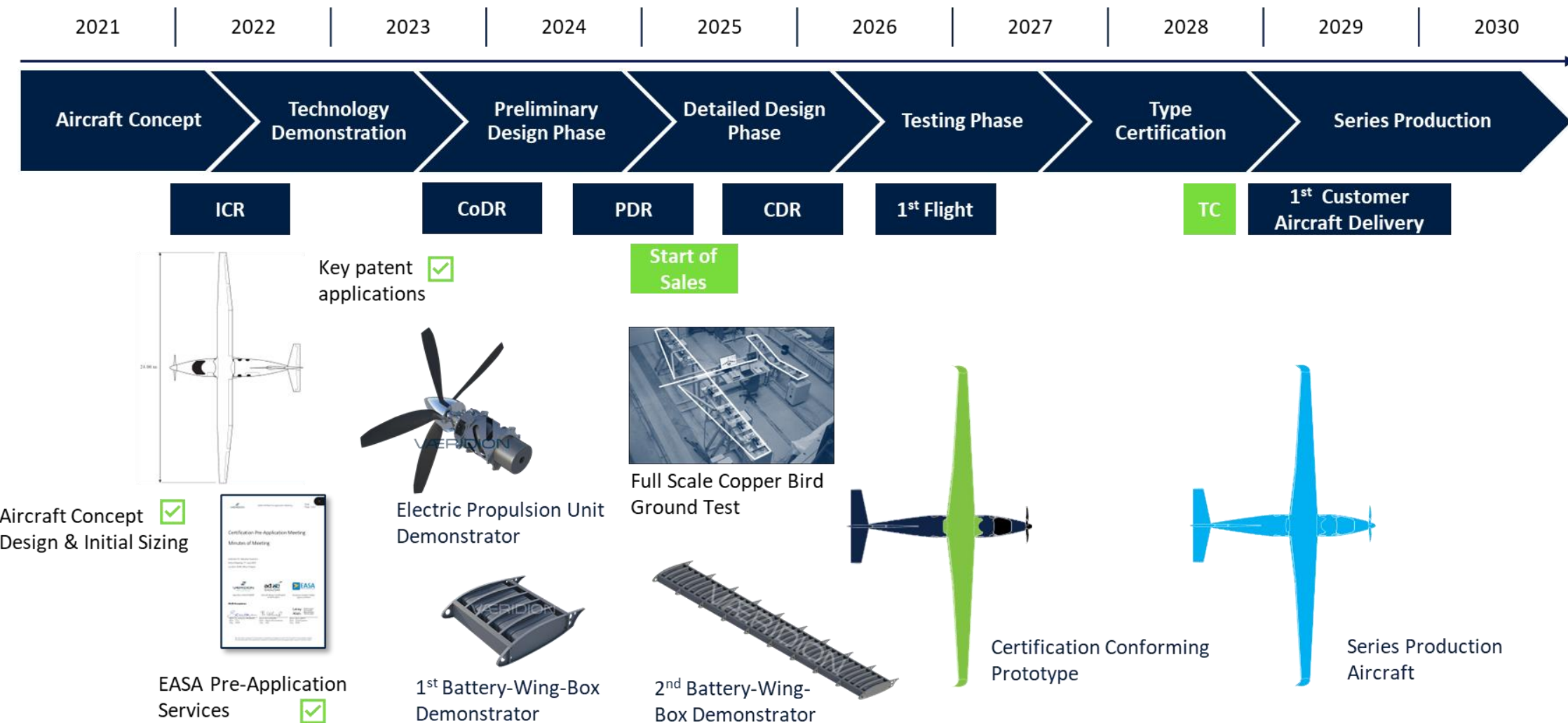
Distinct Certification Frameworks for Fixed-Wing Aircraft

Category & Level	Aircraft Category	CAT IFR *	Decisive Requirements
CS-25	Large Aeroplanes	Yes	<ul style="list-style-type: none"> • MTOM ≥ 8.618 kg • MOPSC ≥ 20 (pax)
CS-23 Level 4	Performance Class A, Commuter Category	Yes	<ul style="list-style-type: none"> • MOPSC $19 \geq 10$ (pax)
CS-23 Level 3	Performance Class B, Normal Category	Yes	<ul style="list-style-type: none"> • MOPSC ≤ 9 (pax)
CS-23 Level 2 & 1	Performance Class B, Normal Category	No	<ul style="list-style-type: none"> • MOPSC ≤ 6 (pax)
CS-LSA	Light Sports Aircraft	No	<ul style="list-style-type: none"> • MTOM ≤ 600 kg • MOPSC ≤ 1 (2 incl. pilot)

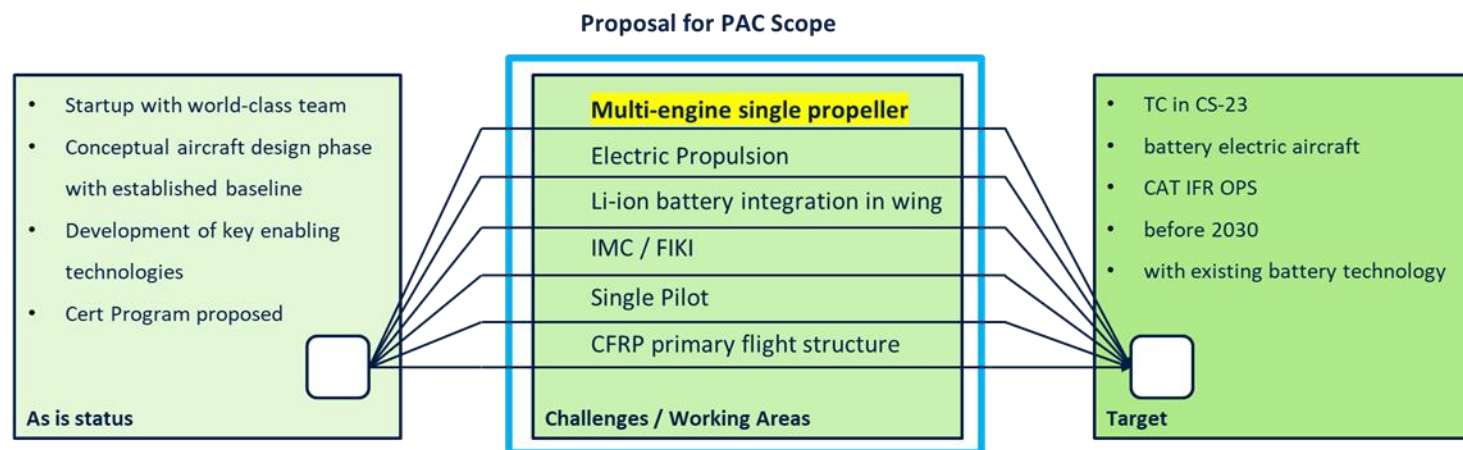
*: Commercial Air Transport (CAT) under Instrument Flight Rules (IFR) common in this category



Design for Certification and Technology De-Risking



EASA Collaboration in Pre-Application Contract



1. EASA considers VÆRIDION a project with success potential.
2. Formalities for Pre-Application Contract (PAC) are now being prepared.
3. Focus area will be multi-engine single prop certification.



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Thank you!