Accelerating the future of aerospace

EXAELIA: IN IT FOR THE LONG-HAUL

Martin Nagelsmit

Royal NLR - CTO





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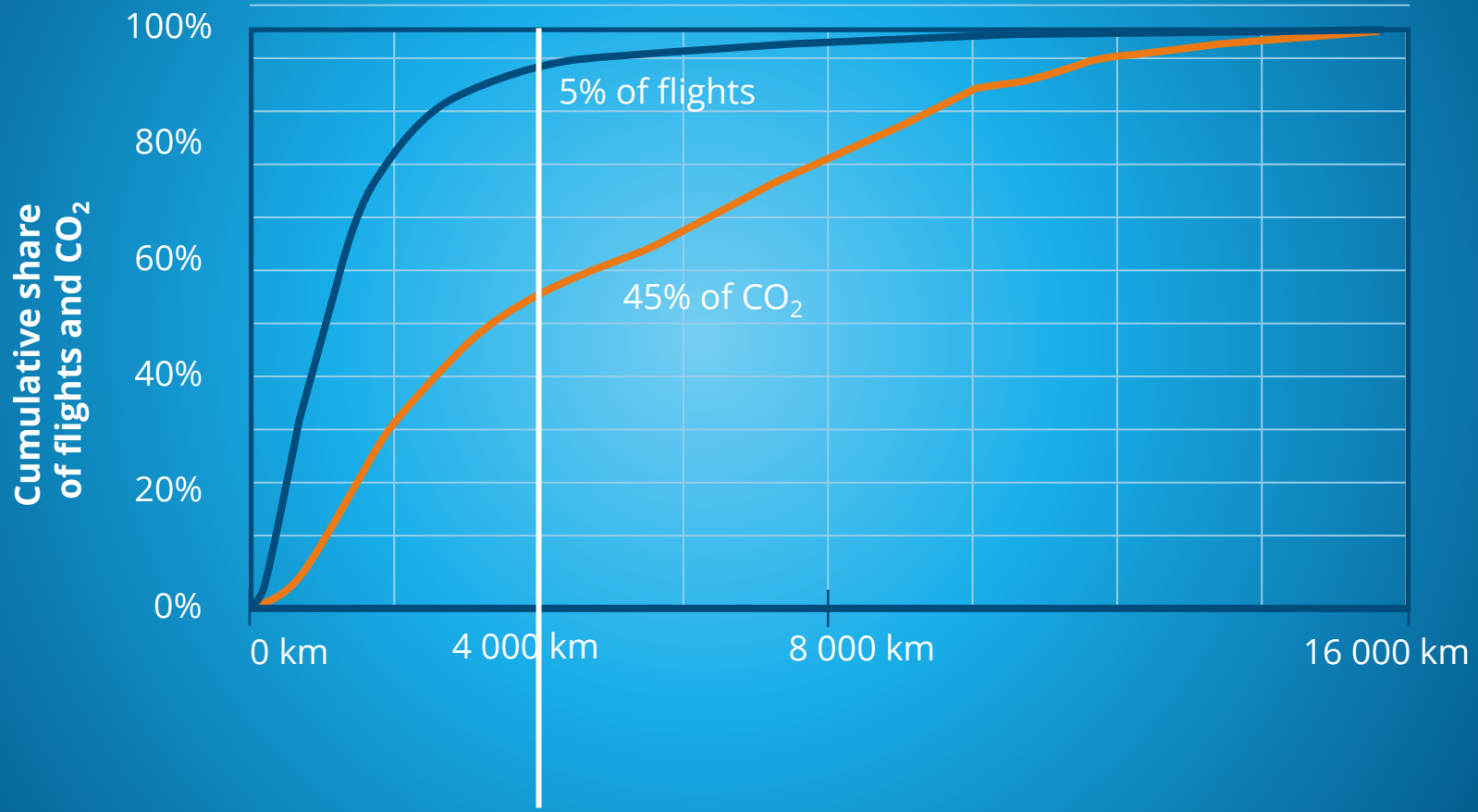
“What would it take to make a radical leap?”



Long-range aviation needs its own radical ambition.

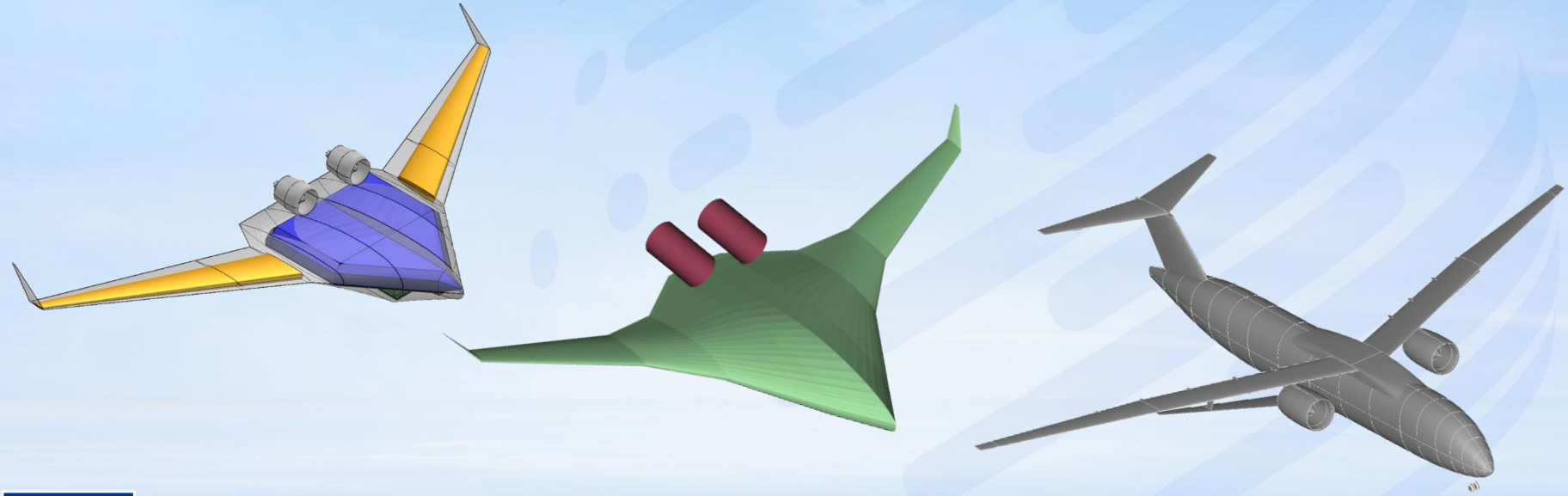


What does a long-range aircraft look like in 2050?



Disruptive long-range concepts.
Critical uncertainties.
Experimental capability.

EXAELIA
Flying Testbeds for Novel Long-Range Aircraft



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Flying Testbeds for Novel Long-Range Aircraft















































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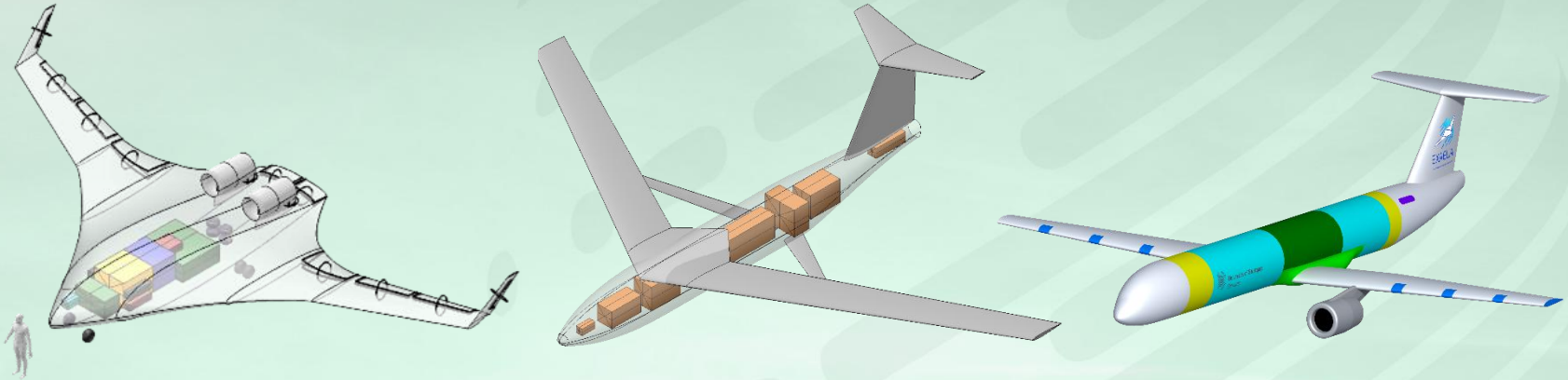
Which evidence enables the next step?



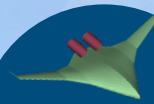
Main flight test needs:



H_2-TAW:
- Aero-elasticity
- Control
- Manufacturing/ integration strut-braced wing



SAF-BWB:
- Control
- Aerodynamics
- Structure
- Wake vortex
- Engine integration

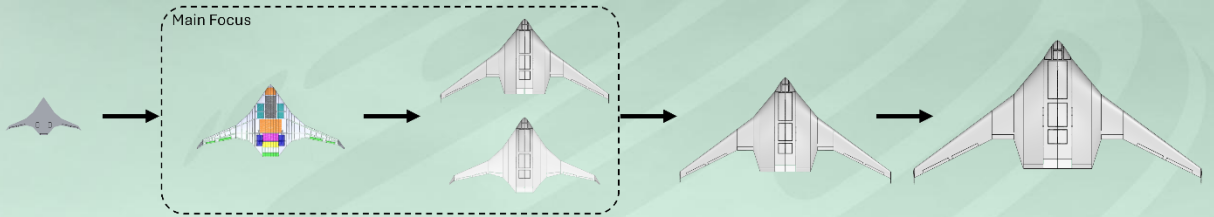


H_2-BWB: as for SAF-BWB and
- H_2 powertrain aspects

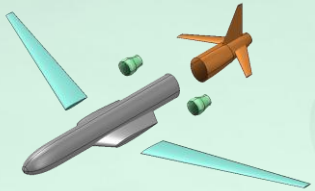
Key ground test needs: e.g.,
- Aerodynamic performance (all)
- Structural weight validation (BWB)

FTB families concept definitions

BWB



H_2-TAW



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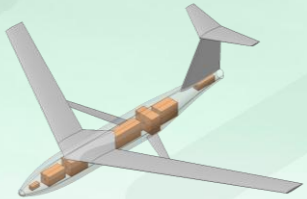

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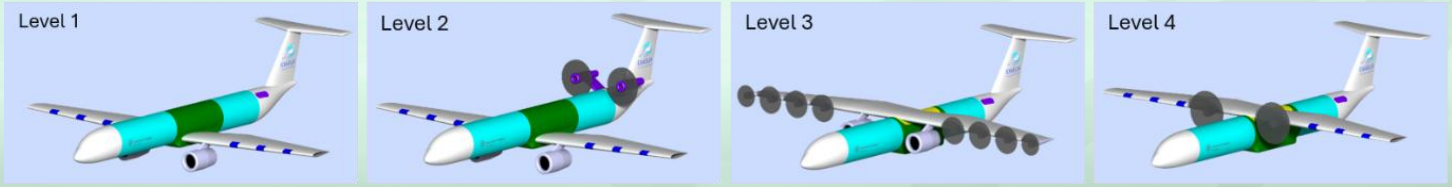
Powertrain



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Three concrete asks:

- continuity in collaborative aviation research
- investment in experimental validation
- a long-term roadmap with clear responsibility



Which uncertainty must we resolve next,

and **who will help?**



Create the evidence. **Then make it fly!**

