

AeroDelft @ NAG Young Talent Network talk

Jan-Willem van Zwieten

March 25th, 2021



WHO AM I?

■ ■



**Jan-Willem
van Zwieten**

Team Manager

- Age: 23
- BSc. Industrial Design Engineering | TU Delft
- Passion for aviation
- Passion for sustainability

Total:
46 active members
100+ alumni

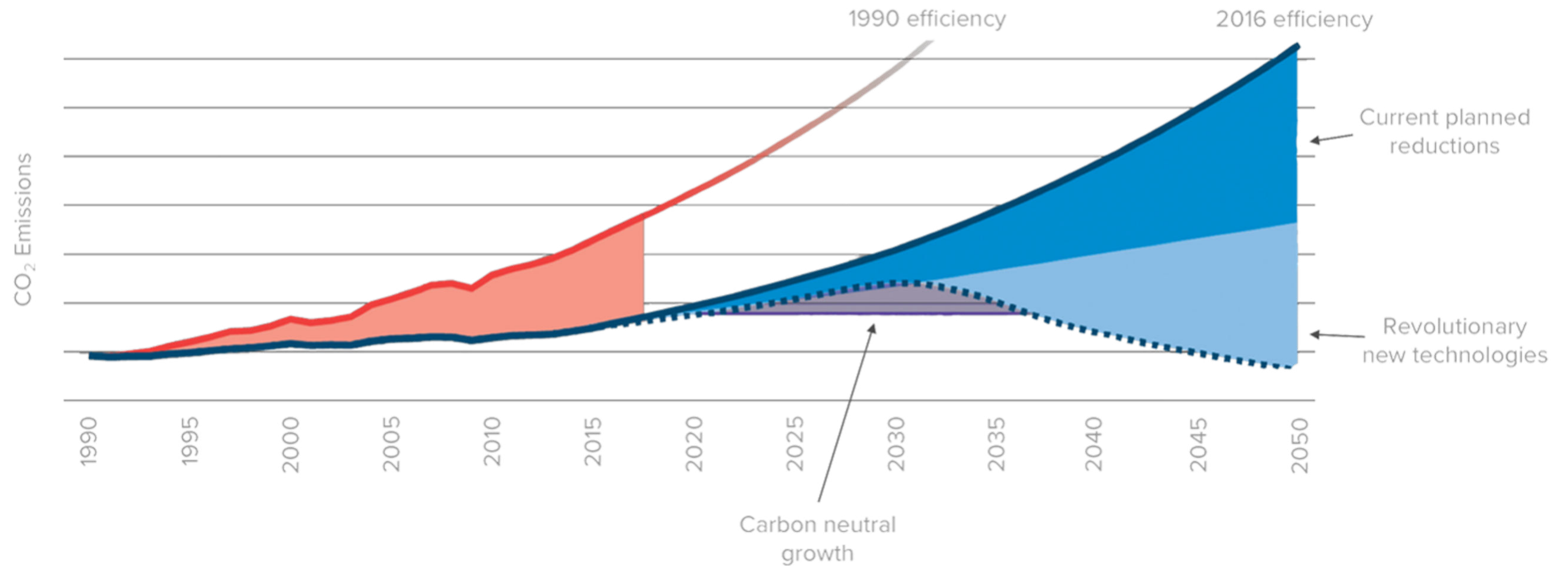






IATA - CORSIA

Carbon Offsetting and Reduction Scheme for International Aviation



Our Mission

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Project Phoenix

“ Prove and promote **liquid hydrogen** as an alternative to conventional fuels in **aviation**. ”

Why liquid hydrogen?

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Gaseous hydrogen

- 3x lighter than kerosene
- 7x larger volume than kerosene



Antares DLR-H2



ZeroAvia



Hy4

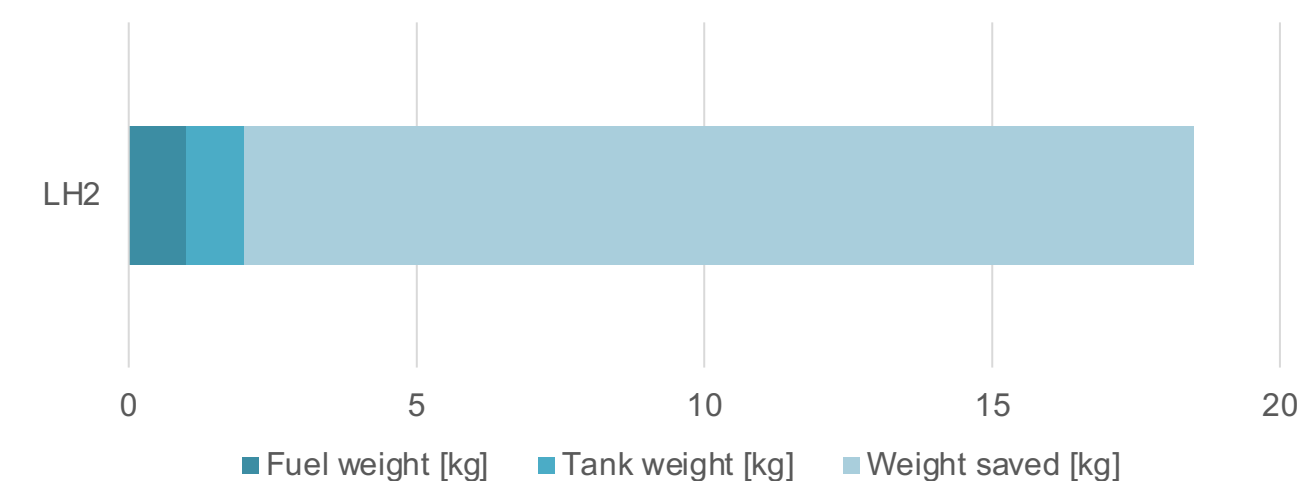
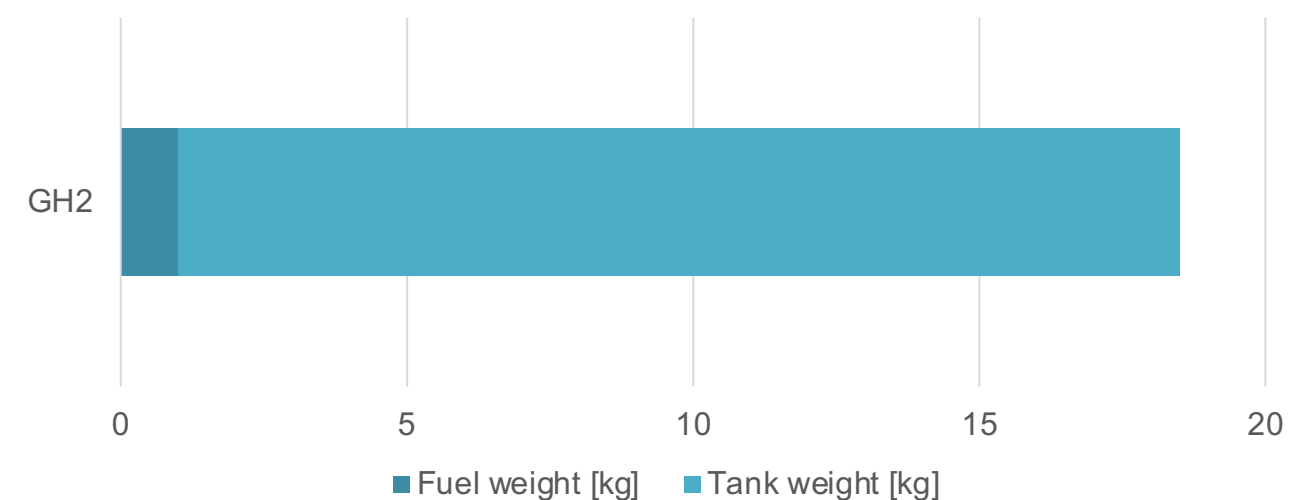
HYDROGEN

Why liquid hydrogen?

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Liquid hydrogen

- Lightweight tanks



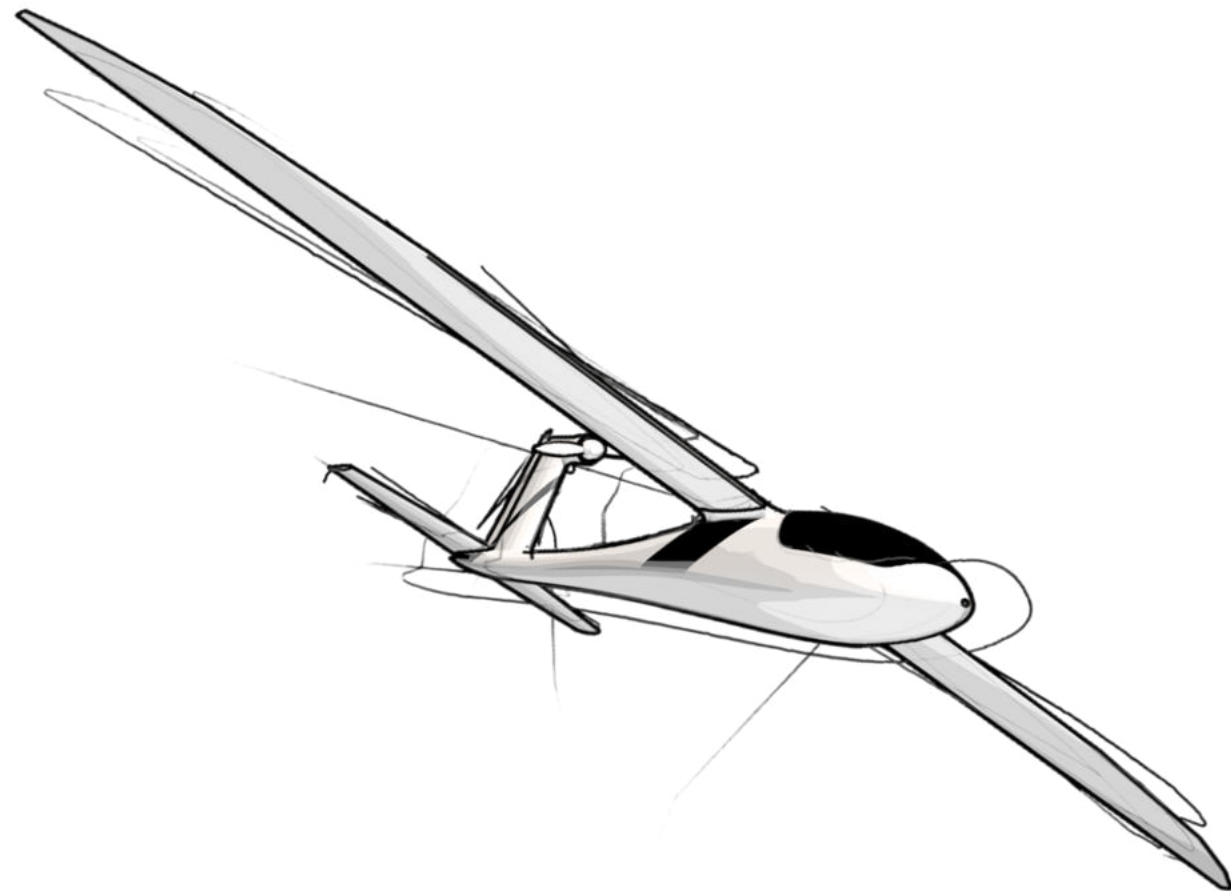


 AeroDelft
1.2kg = 8 hours

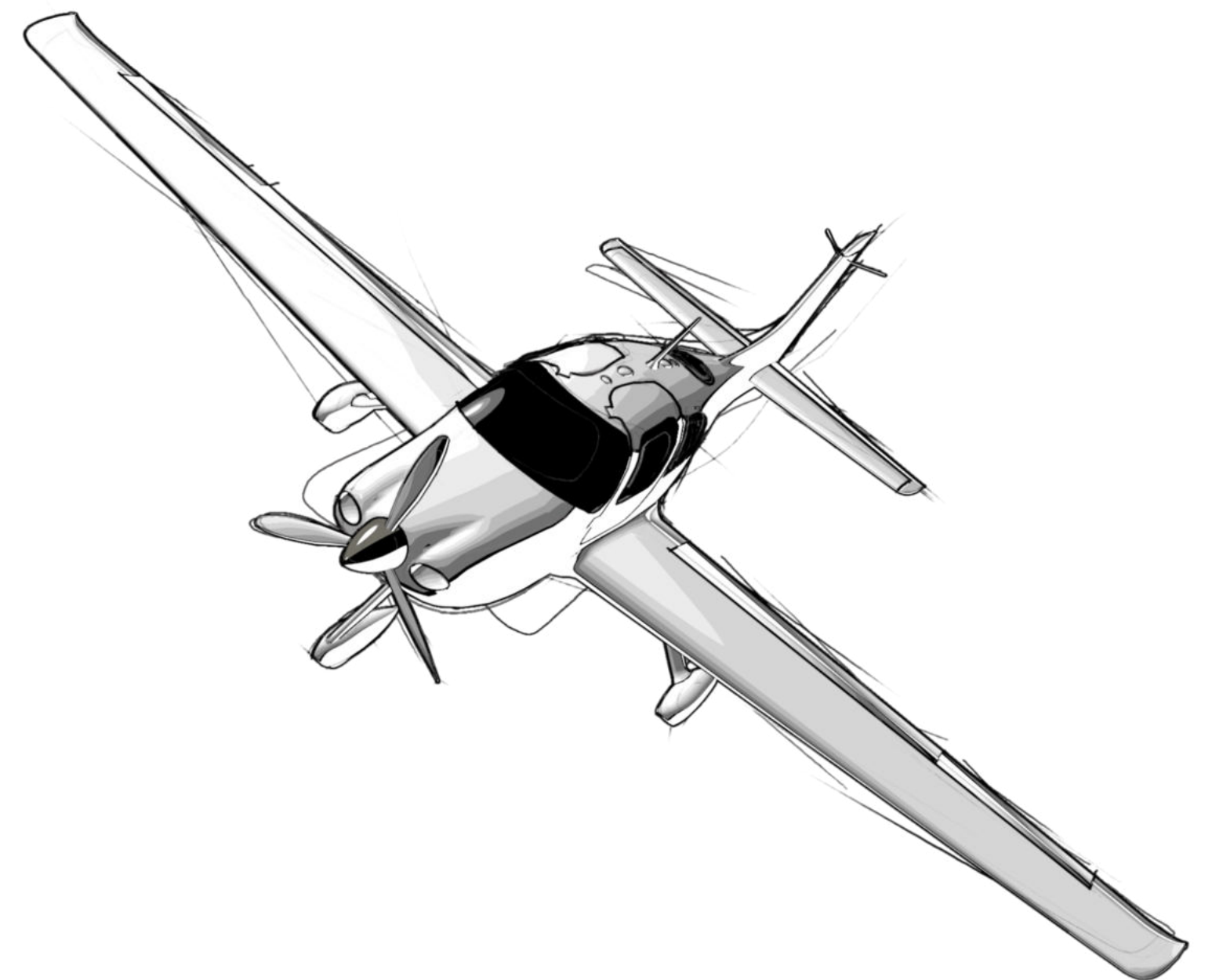
Project Phoenix

■ ■

Phoenix PT



Phoenix FS



Phoenix PT

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e-Genius glider scale 1:3

- MTOW: 50 kg
- Wingspan: 6m



PHOENIX PT

Phoenix PT

■ ■

e-Genius glider scale 1:3

- MTOW: 50 kg
- Wingspan: 6m
- ≈ 15 -liter LH2 tank
- ≈ 1.2 kg of hydrogen
- 8 hours flying
- Cruise: 23 m/s



Phoenix FS

■ ■

Sling 4 Kit aircraft

- Full-scale hydrogen electric aircraft
- 10 m wingspan
- 940 km range
- MTOW: 920 kg
- ≈ 19 kg of LH2



STRUCTURES

TECHNICAL

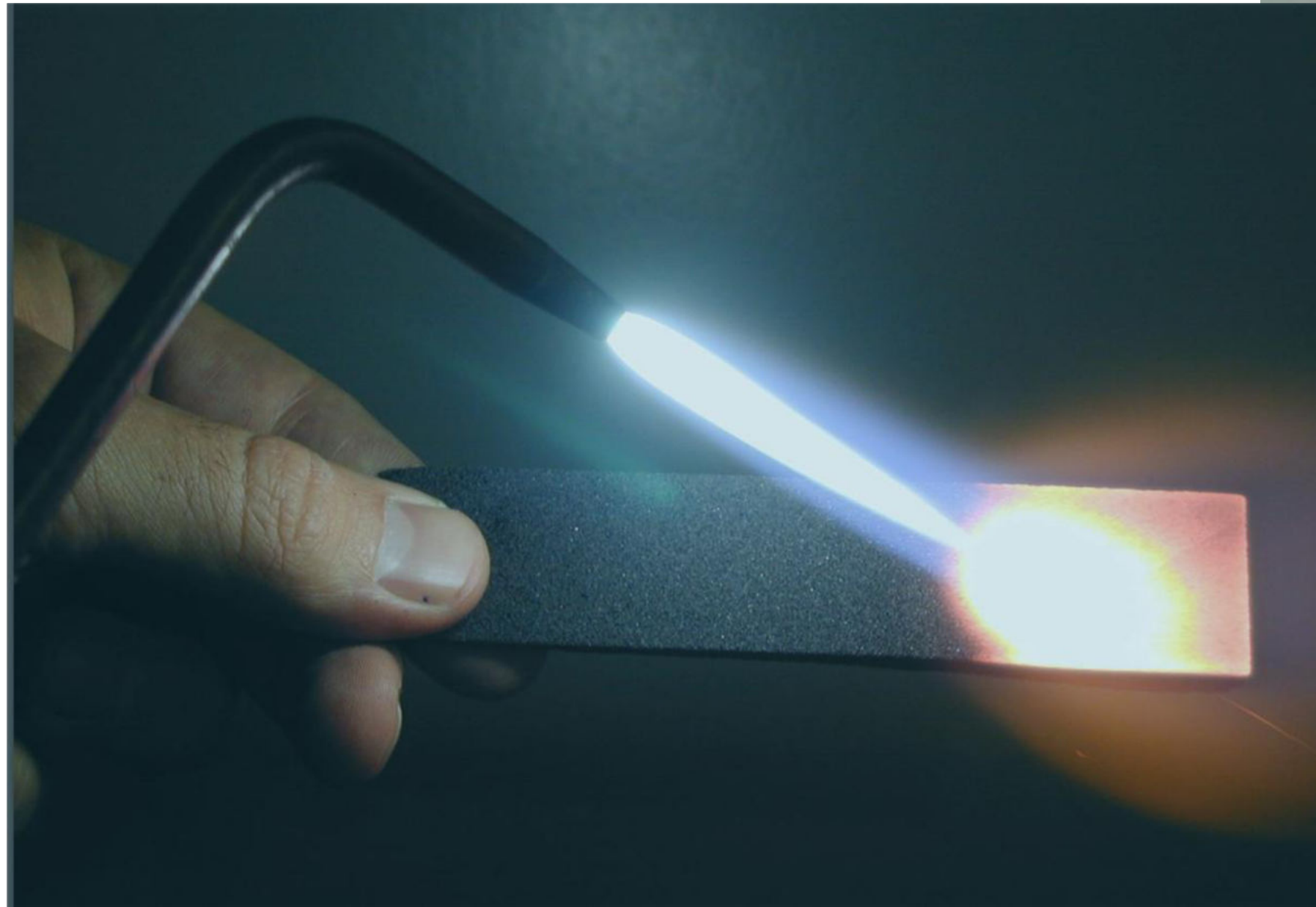
Phoenix PT
Structures



STRUCTURES

TECHNICAL

Phoenix FS
Structures



PROPOULSION

TECHNICAL

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Phoenix PT Propulsion



Lloyd's
Register

Inspection Services Design Appraisal Document

Lloyd's Register Nederland B.V.
Inspection Services
K.P. van der Mandelelaan 41a, 3062 MB Rotterdam
Postal: P.O. Box 701, 3000 AS Rotterdam

Date
13-11-2020

Quote this reference on all future communications

Project: AeroDelft
Subject: Liquid Hydrogen Tank
Item no.: 5.1 Tank
Pressure Equipment Type: Vessel
PED Category: II (module A2)

Document no:	
Issue number:	1
Page 1 of 2	



PROPELSION

TECHNICAL

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Phoenix PT Propulsion

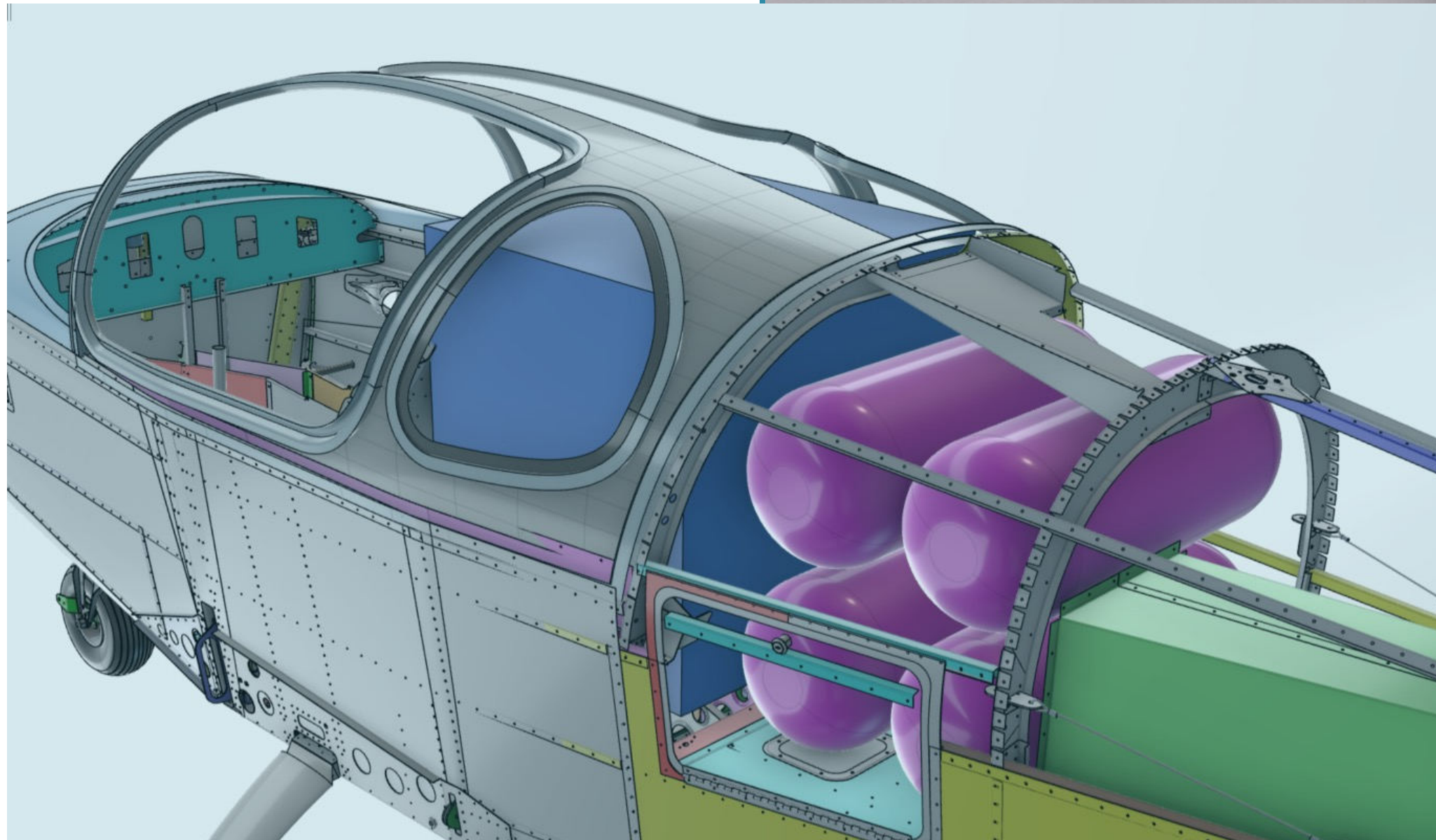


PROPULSION

TECHNICAL

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Phoenix FS
Propulsion



TECHNICAL

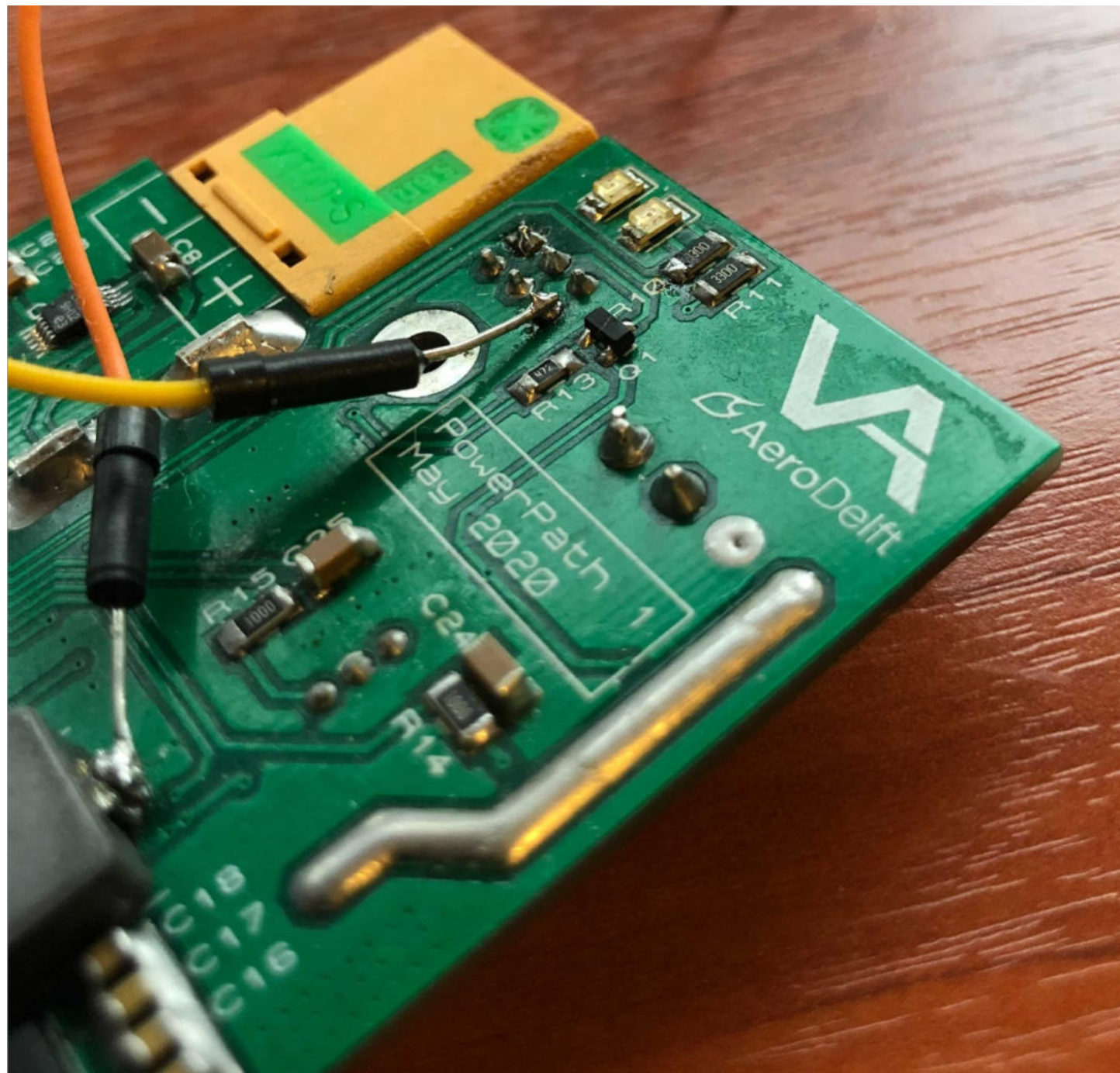
Phoenix FS Certification



Inspectie Leefomgeving en Transport
Ministerie van Infrastructuur en Waterstaat

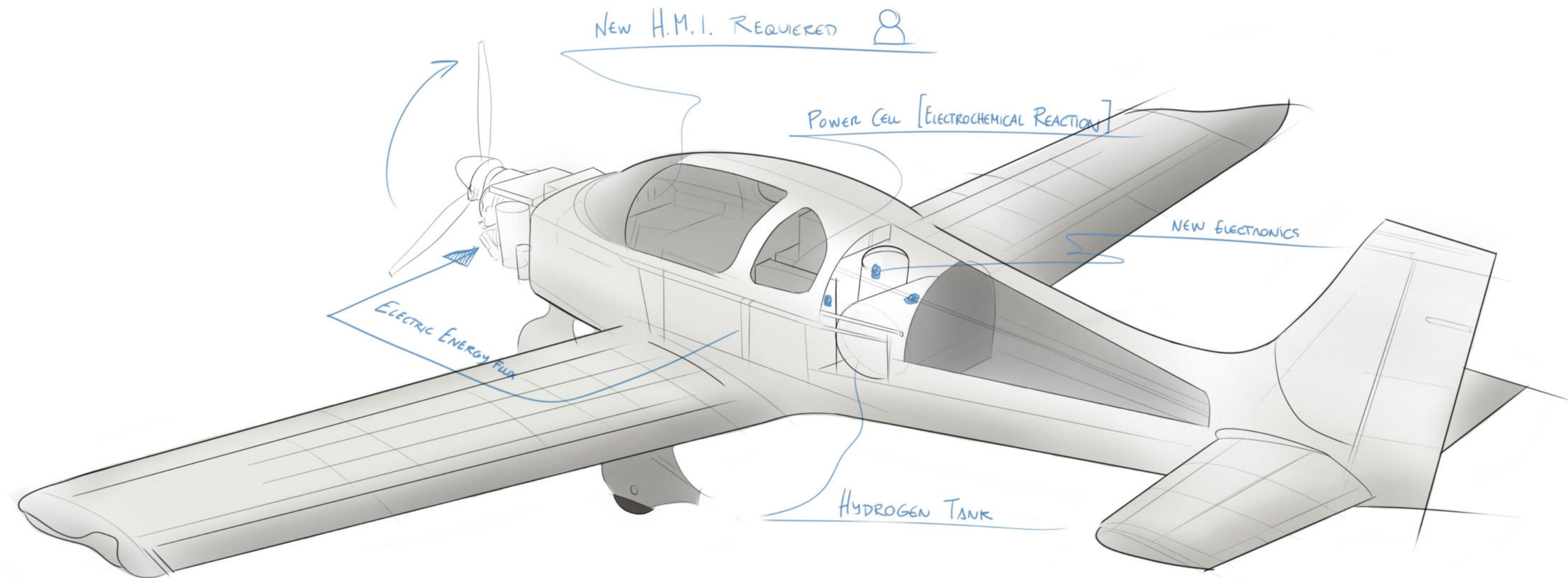
TECHNICAL

Phoenix PT
Electronics & Control



TECHNICAL

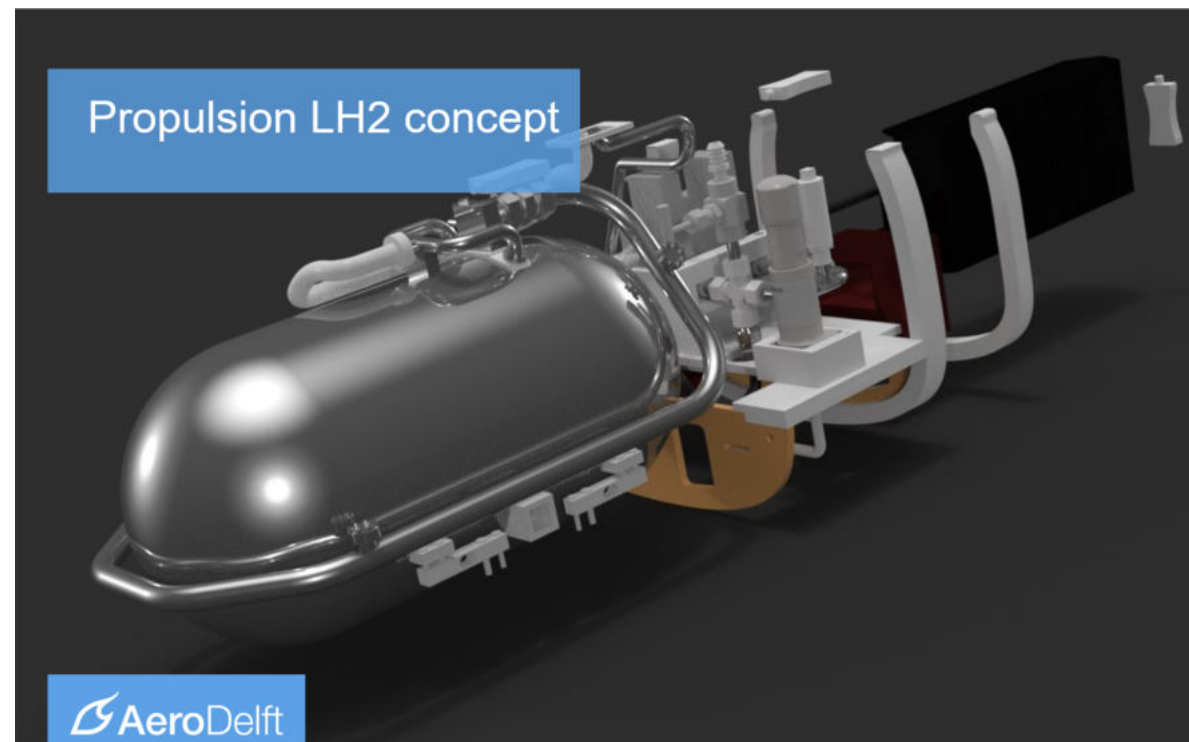
Phoenix FS Electronics & Control



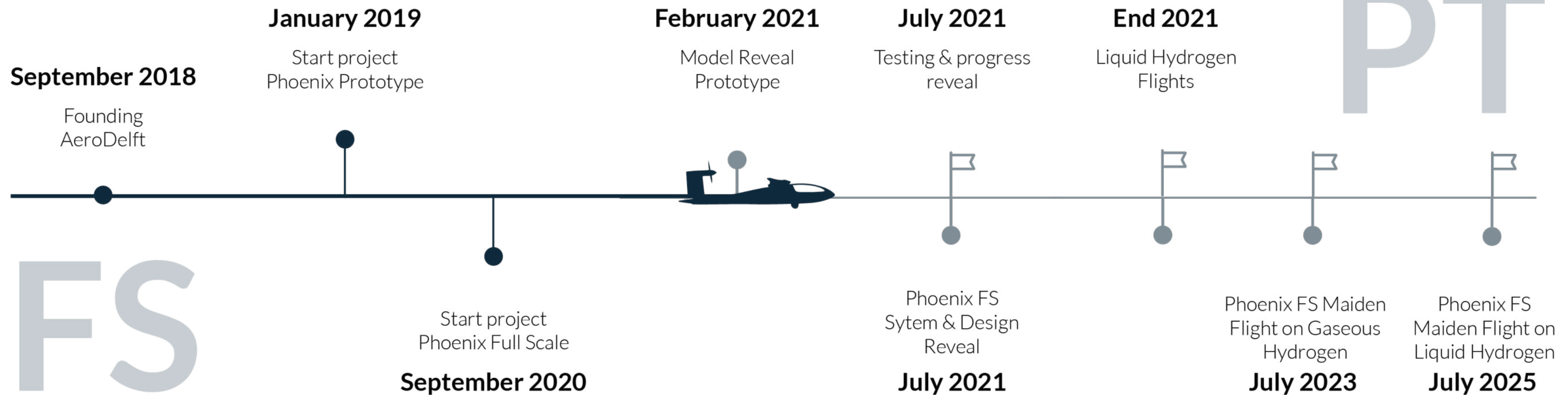
Project Phoenix' goals

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- Integrate prototype propulsion technology in manned aircraft
- Sustainable passenger flights
- Prevent GA aircraft from emitting CO₂, NO_x or water vapour



Timeline



JOIN US!

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Platinum Members



Golden Members



Silver Members



Bronze Members



THANKS FOR JOINING US!



THANKS FOR JOINING US!



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