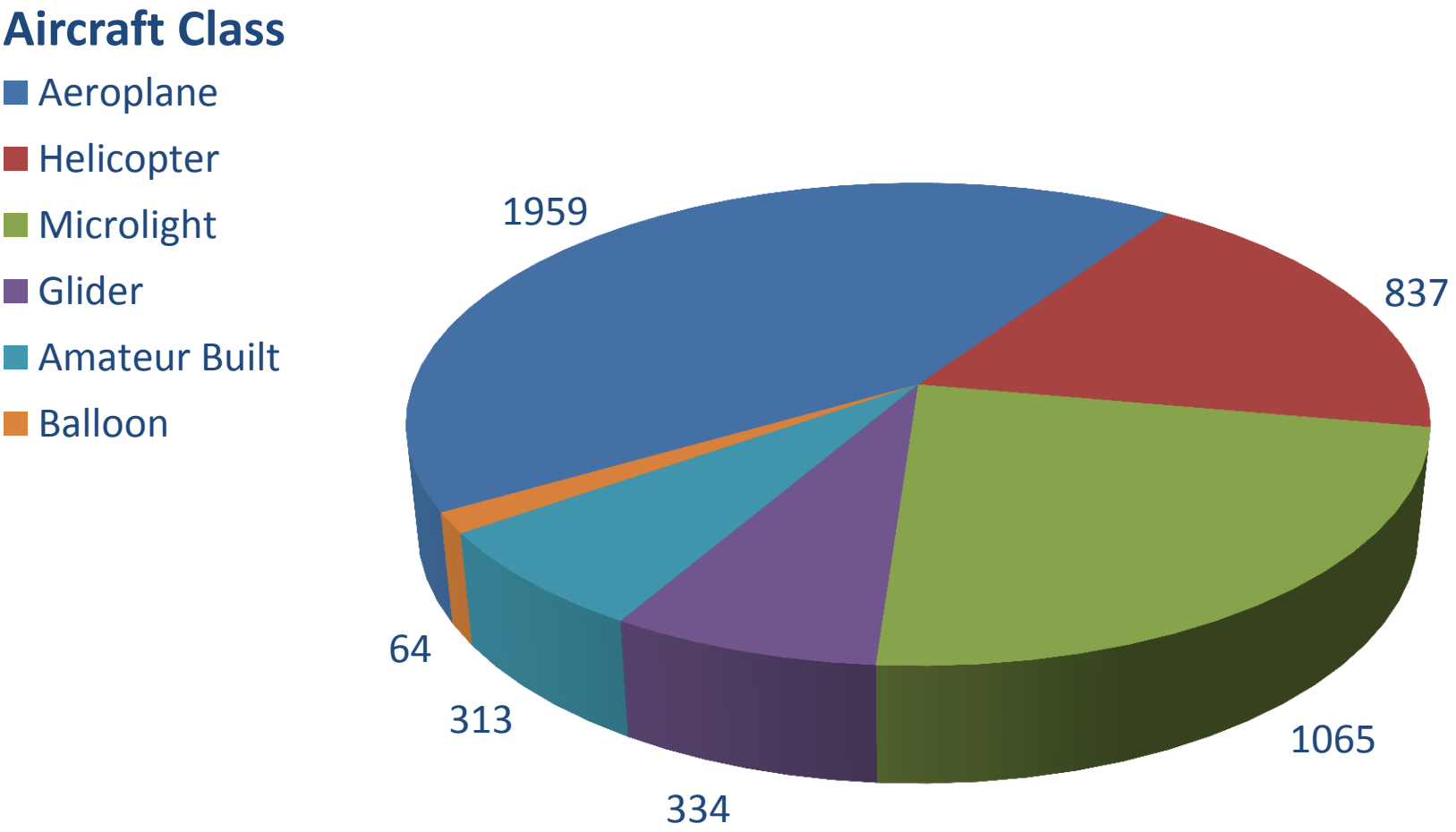
Composite Helicopter Project

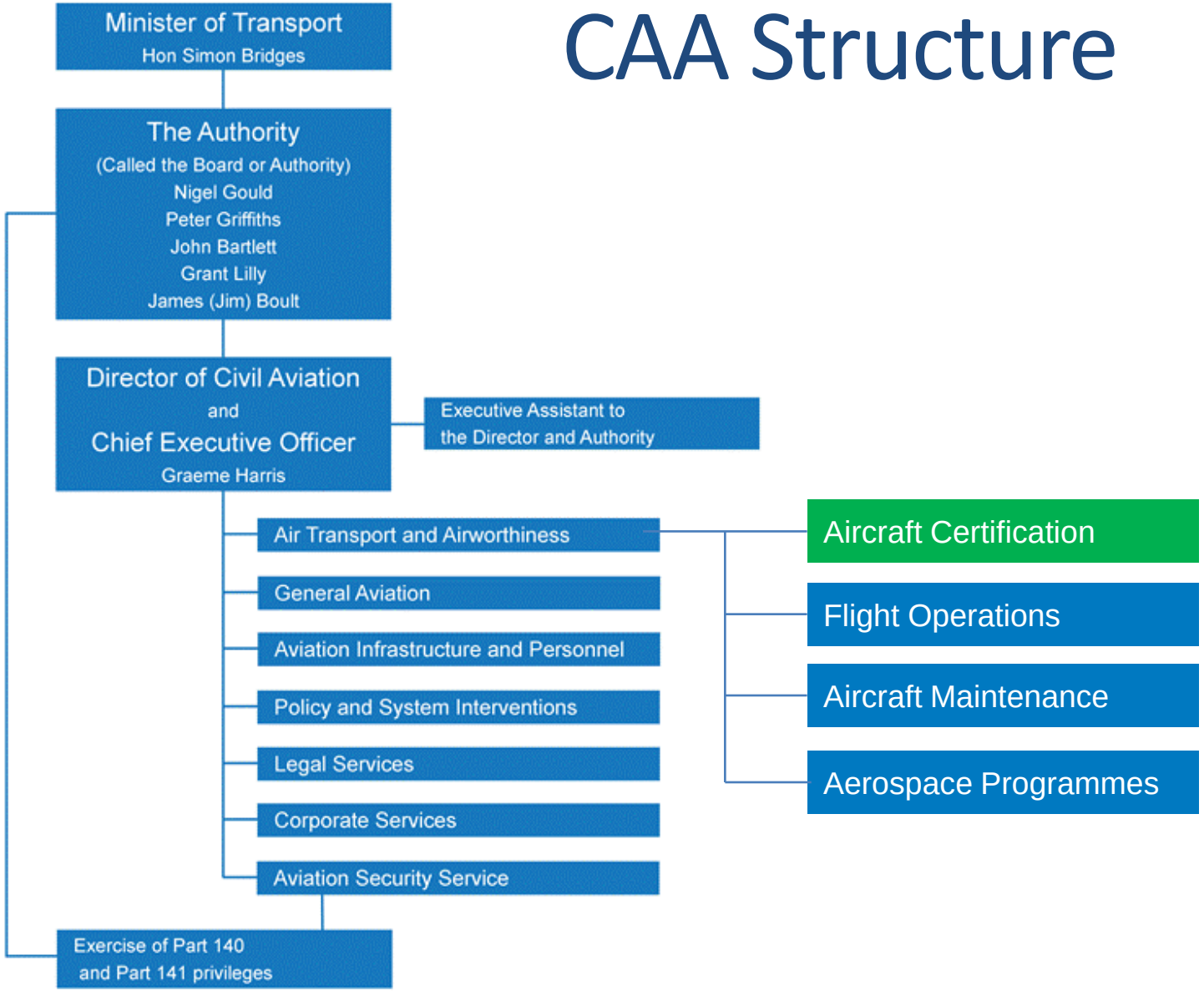
Greg Baum

Aircraft Certification, New Zealand Civil Aviation Authority

New Zealand Aviation System



CAA Structure

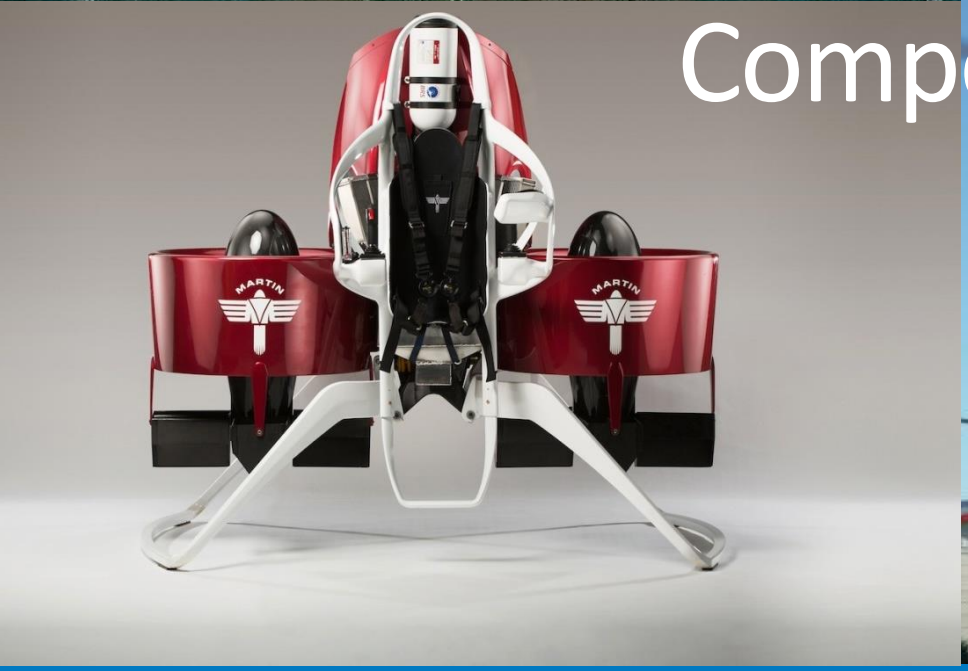


Rules & projects

SMS NEW ZEALAND

new southern sky

Composites



CAA
CIVIL AVIATION AUTHORITY OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

Innova Composite Helicopters

CAA
CIVIL AVIATION AUTHORITY OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

Project status

- US investors
- Development & planning
- 2 year TC program
- FAA shadow certification

CIVIL AVIATION AUTHORITY OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

Fully articulated main rotor & ducted fan tail rotor

6 seats - GW 3,200lb – Vne 140kts – Ceiling 14,000ft – RR300 (TO 330shp)

Passenger & utility roles

Carbon Aramid composite monocoque structure

History

ZK-ICM Sn # 001
Total flight hrs 198

ZK-ICM Sn # 001 May 2012 - Ditching

- Minimal fuselage structural damage (Tail Boom)
- MRGB / Eng frame - No damage
- TRGB frame - No damage
- MRB Spindles – Run out satisfactory
- MR shaft – Run out satisfactory
- No primary composite structure failure

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Tail Strike – blades 3 & 4

ZK-HOL Sn # 003
Total flight hrs 48

ZK-HOL Sn # 003 November 2014 – Loss of control

Certification Issues

- Composite issues specific to rotorcraft?
- Certification approach for resin infusion compared to prepreg?
- Continuing Airworthiness for monocoque structure
  - DT, inspection & repairs
  - rotorcraft v's 787 maintenance environment/training
- Composite seats
- Integral fuel tanks

Thank you