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AUS Space regulation & commercial space transport

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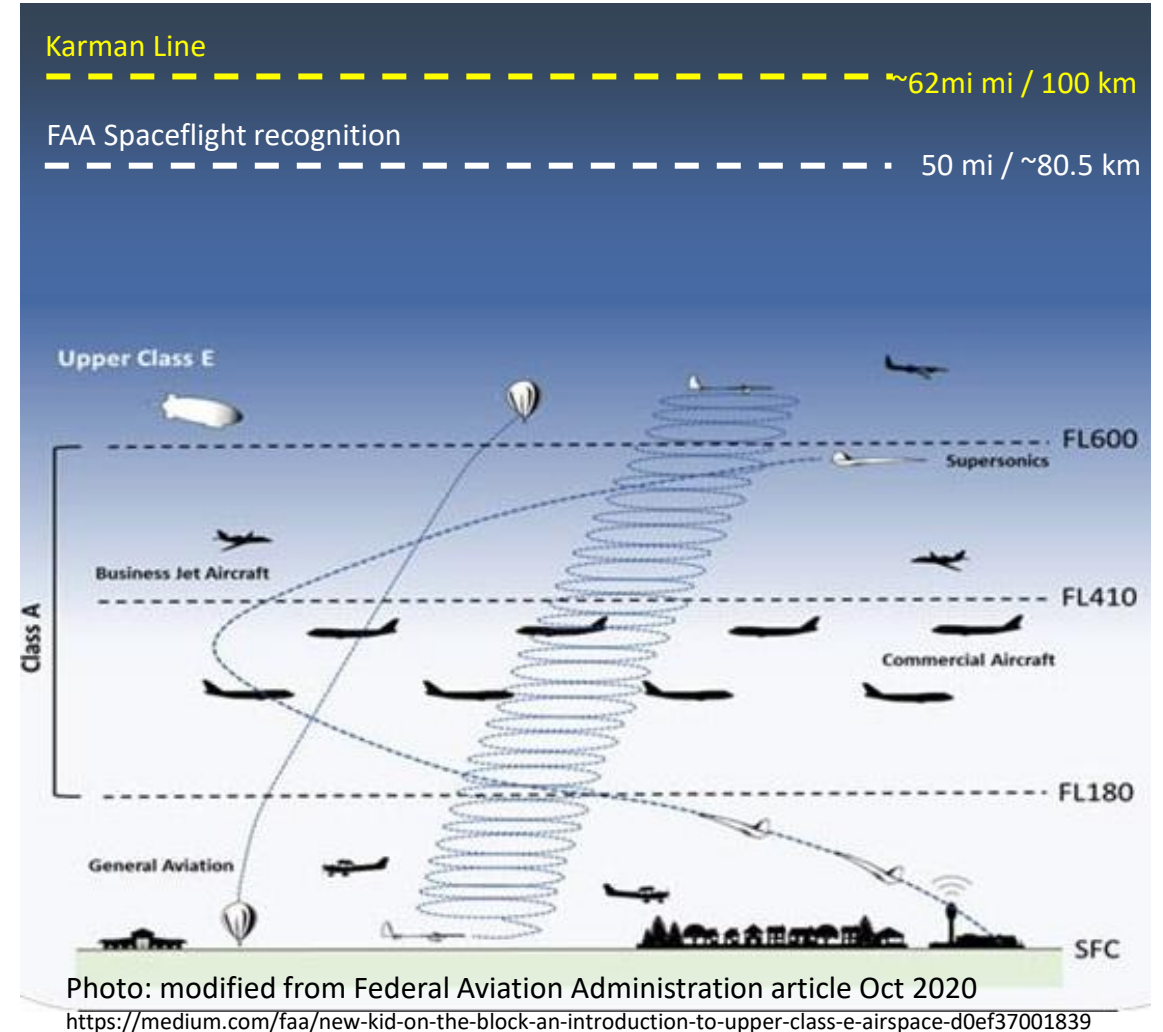
Introduction

- Rocketing towards a future of commercial space transport¹
 - Space Tourism
 - Orbital cargo drop
 - Point-to-point deliveries
- Greater than 10% growth expected in the market
 - Microgravity research alone projected from \$3.3B in 2024 to \$5.32B in 2029; >10% CAGR³
- Gaps exist in regulatory environment in Aus (and globally) to efficiently support



Current regulatory environment

- In Aus, relevant space regulations cover:
 - Over 100km launch and / or return
 - Under 100km launch, but above certain impulse thresholds
- Commercial airspace managed separately, up to FL600 (60,000 ft / ~18.3 km)



Current regulatory environment (Cont.)

BLUF: Commercial space transport is possible

- Australian authorisation under the *Space (Launches and returns) Act 2018*
 - Australian Launch Permit (over 100km)
 - Return Authorisation (Return to Aus), or
 - High Power Rocket Permit (under 100km)
- Foreign nation approval (if launched / returned to another nation)



Photo: Varda W-3 Capsule returned to Southern Launch's Koonibba Test Range (KTR)

Challenges

- Pre-activity authorisations (bottleneck)
- Coordination with other regulators
 - Traffic management: Air, Land, Maritime, and/or Space
 - Export, Customs, potentially immigration
- Adding to existing strain
 - Air Traffic Control¹⁰
 - Space Traffic Management¹¹
- Human spaceflight gaps
 - No certified systems for human spaceflight
 - Aus regulations are silent

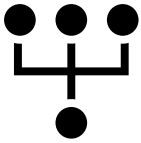
Possible options for the future

- Certification of spacecraft and operators
 - Similar to commercial aviation
- Coordinated approach to traffic management
 - Establish ICAO-like standard operating procedures
 - Flow corridors
- Spaceports established as a port of entry
- Close the regulatory gap

Conclusion



Commercial space transport is achievable now



Updating the approach will support a high-cadence future

- Addressing regulatory gaps
- Certifying systems and operators, and
- Defining standard practices for inter-regulator coordination

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Questions?



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