

SOUTHERN LAUNCH

Developing a purpose built micro- and small-lift launch vehicle Launch Site

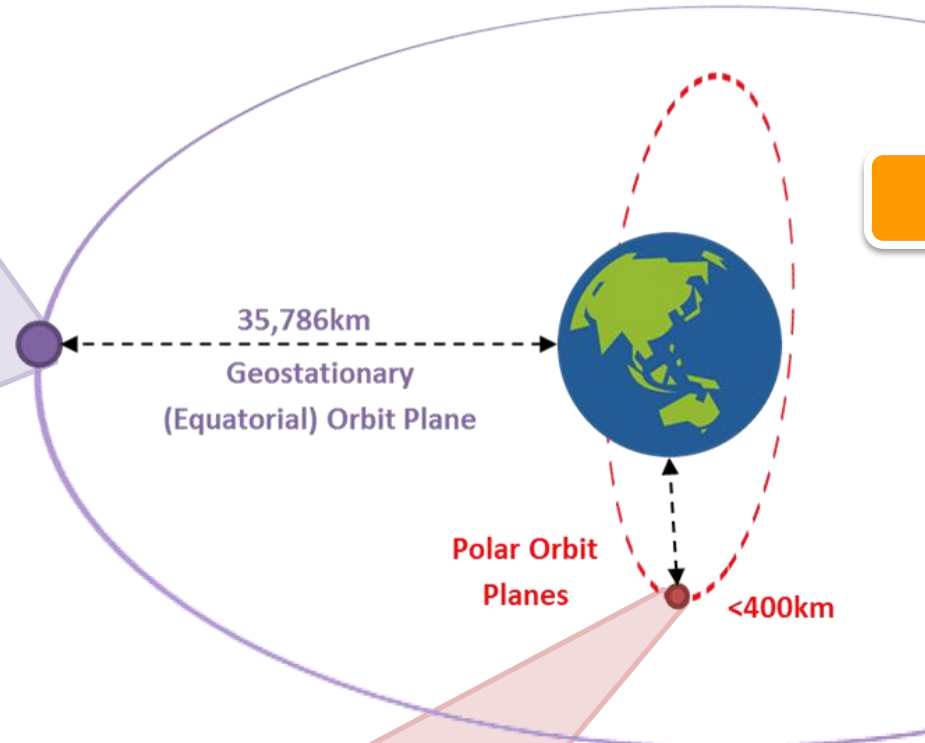
Lloyd Damp
Chief Executive Officer

The Growing Demand for Small Satellites



FROM (OLD)

Mass: 4000 - 6500kg
 Manufacture Cost: US\$200,000,000
 Launch Cost: US\$250,000,000
 Lifespan: 15 years



TO (NEW)

Mass: 3 - 12kg
 Manufacture Cost: US\$400,000
 Launch Cost: ~US\$150,000
 Lifespan: 1-2 years

SMARTSATCRC

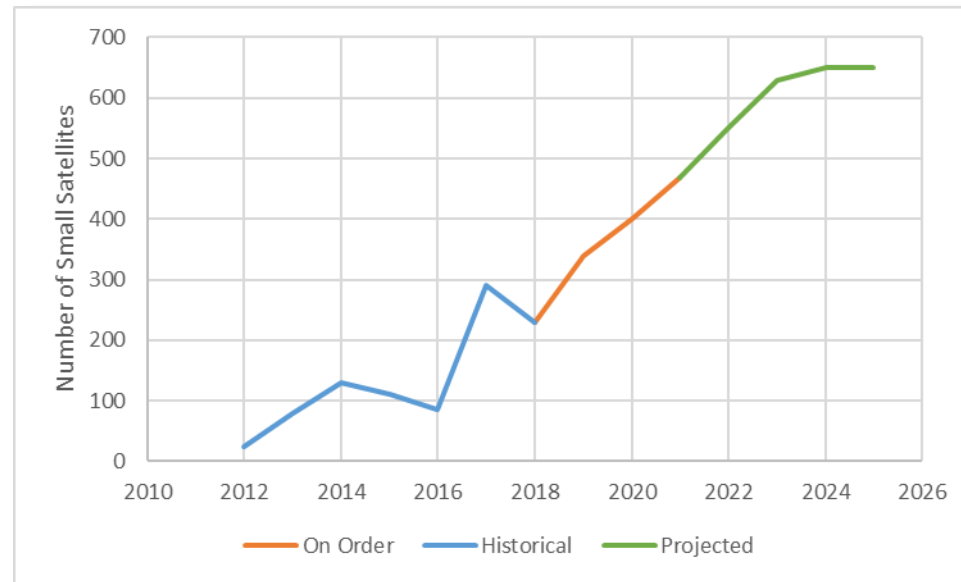
\$234M Cooperative Research Centre

- Internet of Things (IoT)
- 5G Connectivity
- Crop monitoring
- Environmental Monitoring
- Emergency Services
- Economic Zone Monitoring
- Mobile phones
- Precision Agriculture
- And many more...

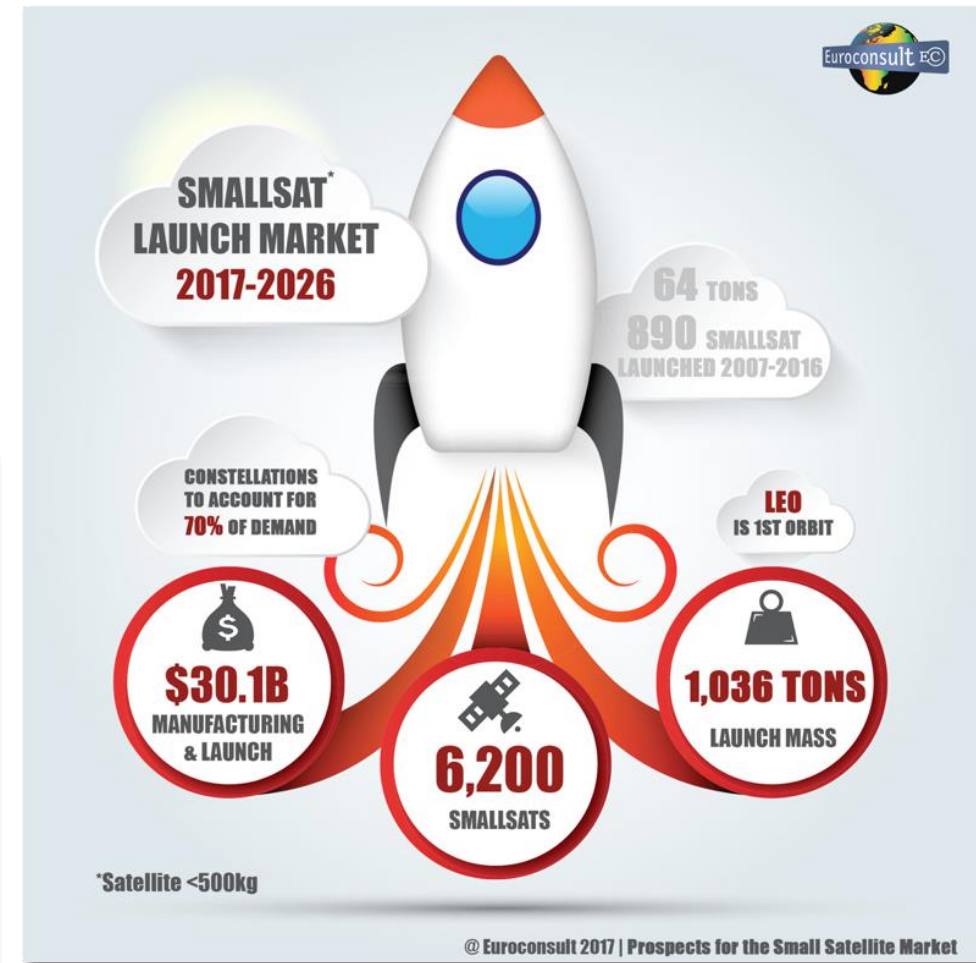
Essential Services from space using COTS technology = NewSpace

Small Satellite Launch Market Size

- **Conservative** small satellite launch market **estimated** at **\$US30.1B** between 2017 and 2026 with **50%** (polar-like launches) **addressable** by Southern Launch
- **Over 79** companies worldwide building small lift rockets

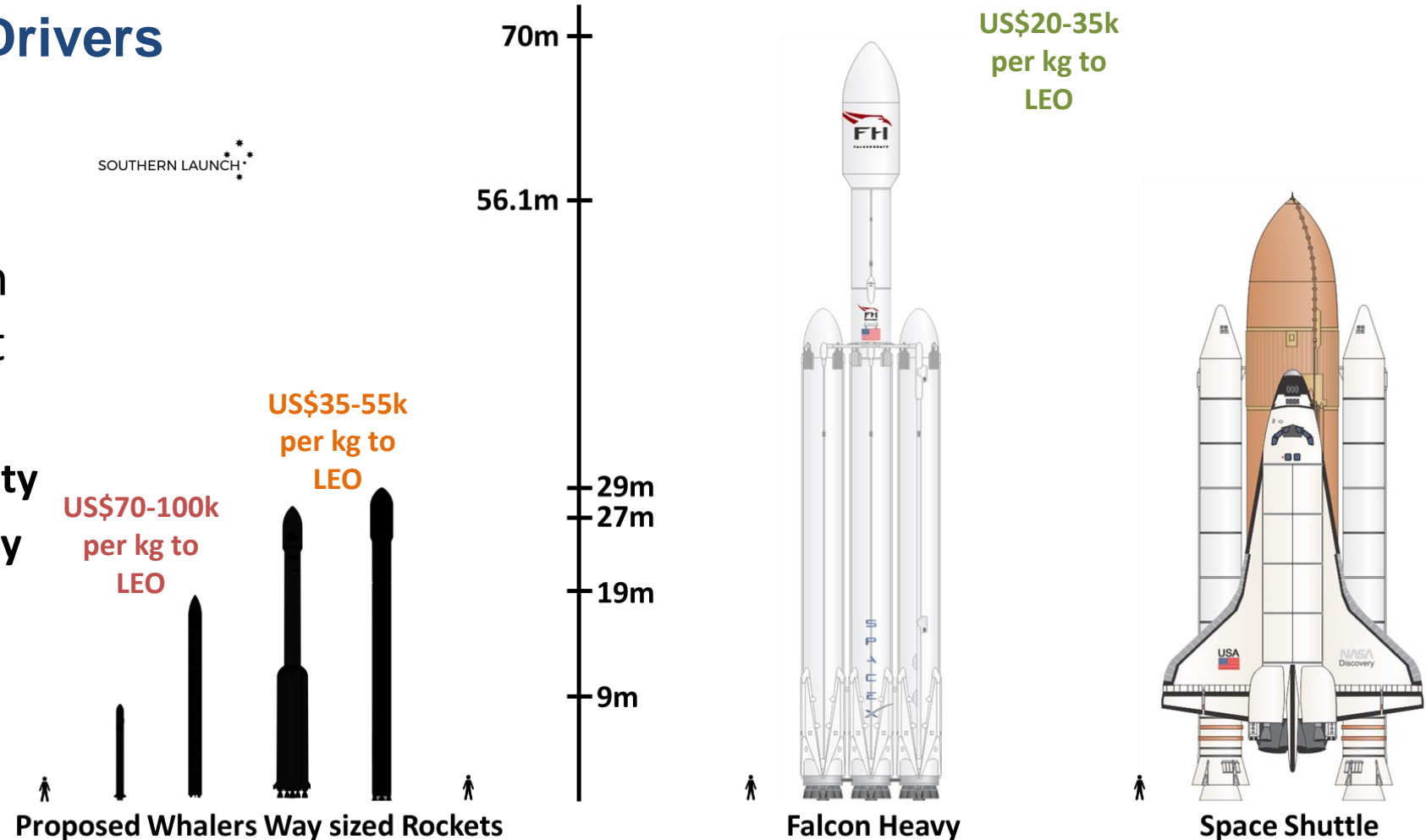


Source: NSR, SpaceWorks & Bryce space & technology



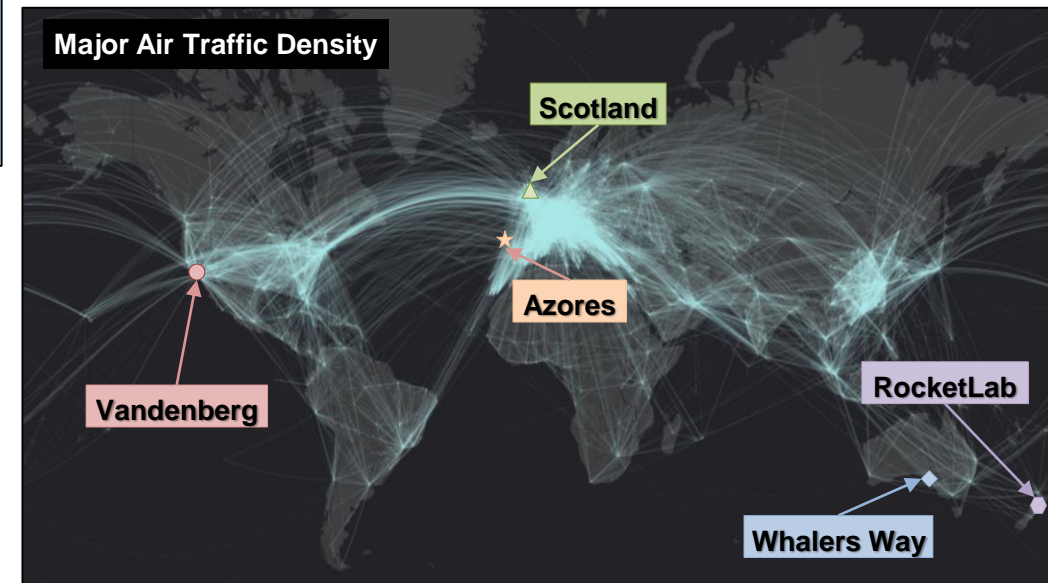
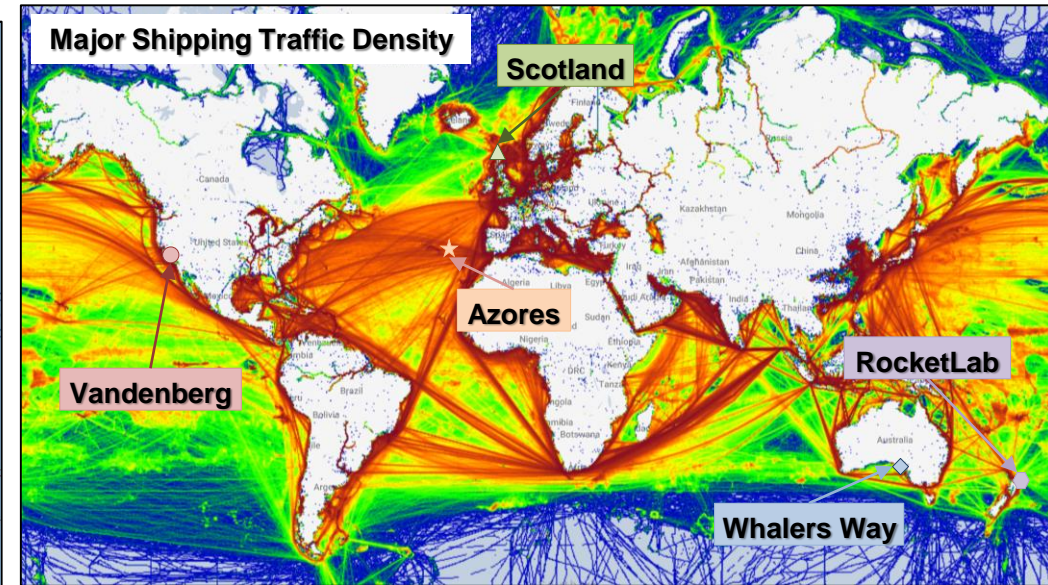
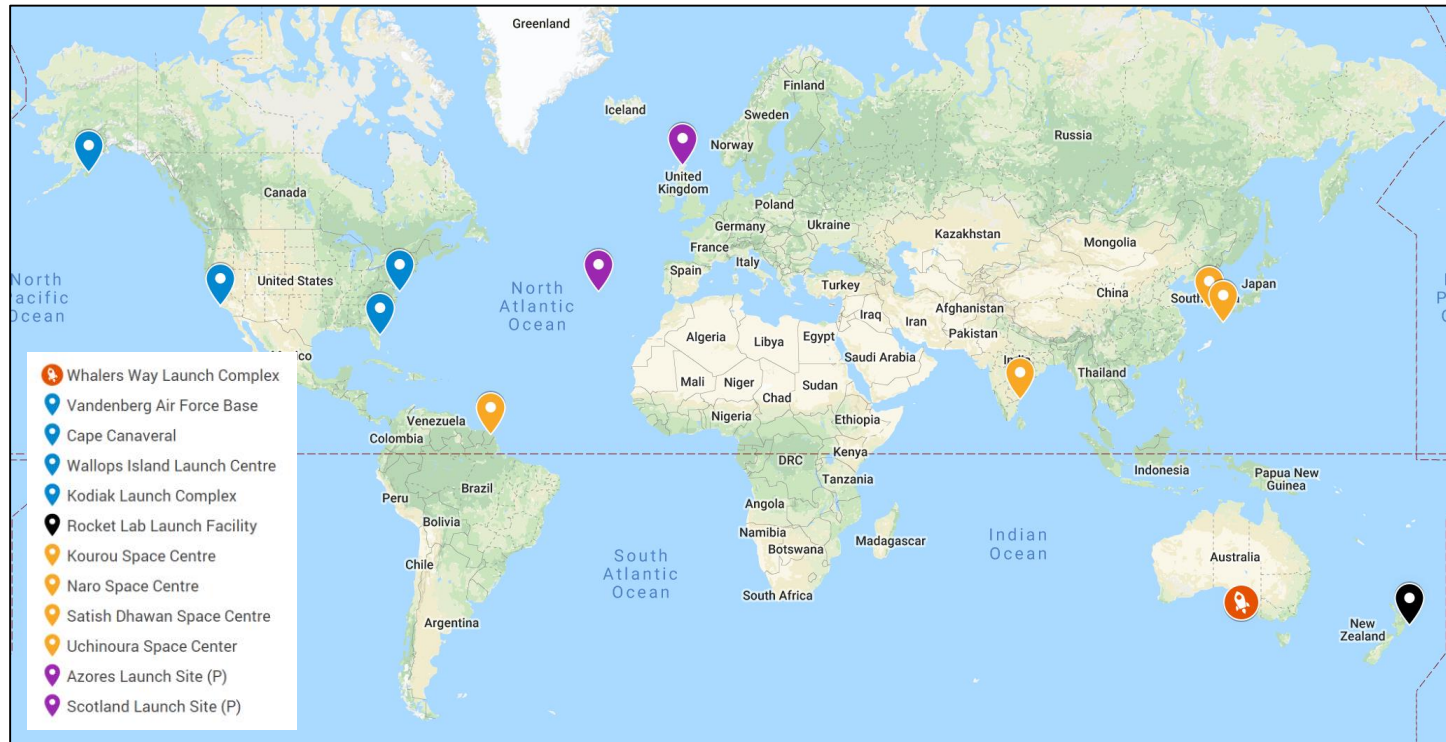
Small Satellite Launch Drivers

- Commercial **price** now driven by **time to orbit**
- Micro & Small Lift Launch Vehicles **compete** against 'rideshare' on
 - Launch **Window Availability**
 - Launch **Schedule Flexibility**
 - Launch **Site Accessibility**
- **Example**
 - Adv. startup cash burn rate ≈ **US\$250,000 per month**
 - Cost of 3U smallsat (3kg small satellite) ≈ **US\$400,000**
 - Rideshare ≈ 6 months ≈ US\$1,500,000 lost staff time + US\$150,000 launch = **US\$1,650,000 cost**
 - Just-In-Time launch ≈ 1 month ≈ US\$250,000 lost staff time + US\$450,000 launch = **US\$700,000 cost**
 - Savings of ≈ **US\$950,000 per satellite + 5 months**



Operators are now more expensive than satellites

No Suitable Multi-User Small Lift Launch Sites

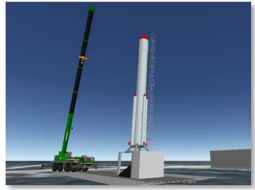


Southern Launch's Unique Value Proposition is

- Launch Window Availability
- Launch Schedule Flexibility

Whalers Way Launch Complex Overview

Build launch infrastructure that grows with the requirements of small rocket manufacturers



2019

Proof of
Concept Launch &
Build Relocatable
Launch H/W

2021

Permanent
Facilities

2024

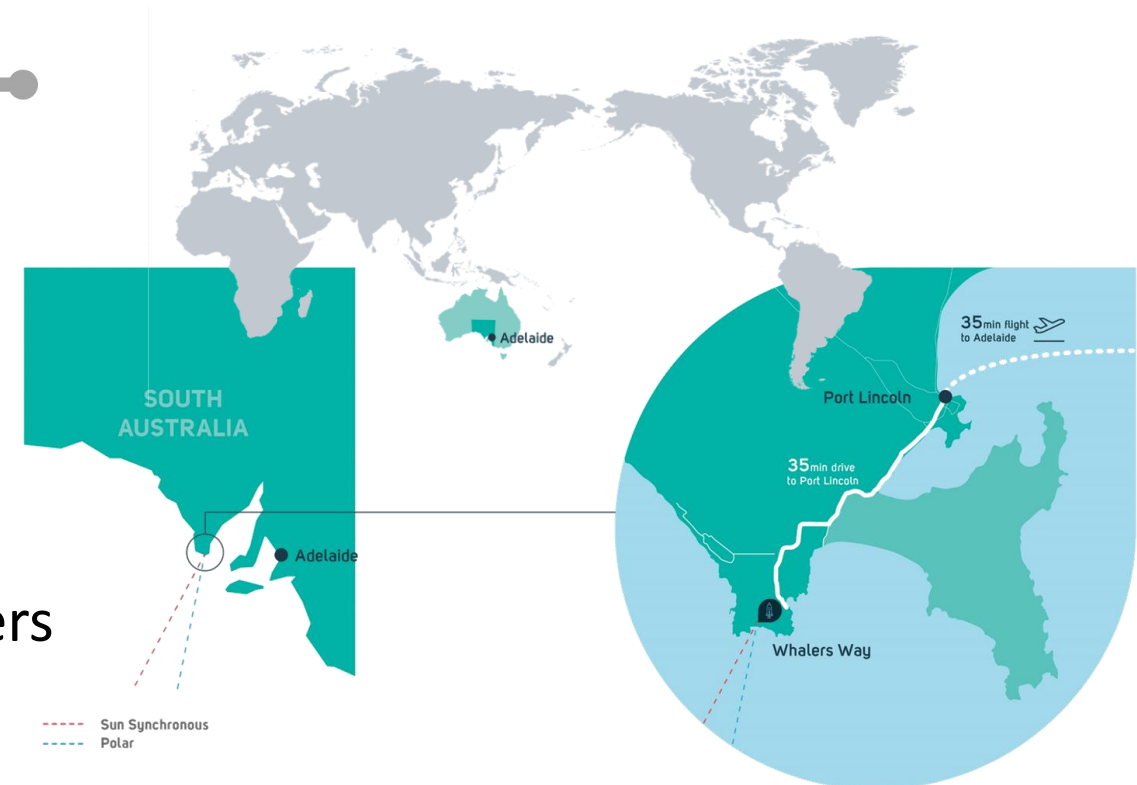
2nd Launch
Pad

2025

3rd
Launch Pad
& Launch
Provider

- **3 Southern Launch or Customer** developed Launch Pads built over **5 years**
- Support **concurrent** operations & **multiple** users
- Launch from a site **supported** by the **vibrant** regional **city** of Port Lincoln with **established** heavy-industry

- **Launch** within **48 hours notice** (current NOTAM limit)



Operating from Whalers Way Orbital Launch Complex has 5 Key Benefits

Just-In-Time Access to Space

Launch **when you want** across a sparsely used ocean range

Geographically Secure

Australian landmass **protects** the Launch Complex location **reducing** the **risk** of Launch Vehicle intercept or interference during ascent

Direct Ascent to Orbit

Maximise payload to orbit as there is no need for lateral manoeuvres to get to orbits of 59 degrees or higher inclinations

Easily Accessible Launch Site

35-minute drive from Port Lincoln, a city of 16,000 people with an **established heavy industry**, commercial airport and 6 wharfs

Access Highly Populated Areas on the First Pass

Helps with LEOP: Overfly North America, all of **Asia** and Perth within **80 minutes**



Projected Benefit to Australia



Further Information

Lloyd Damp

CEO

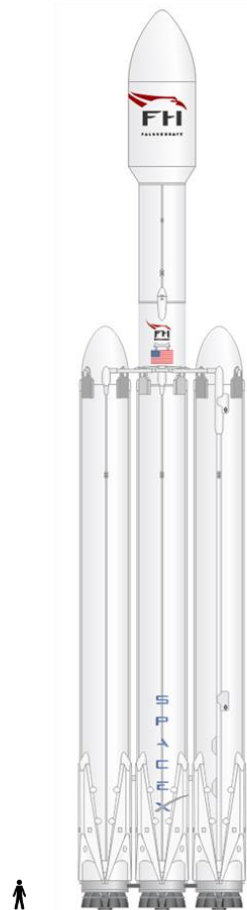
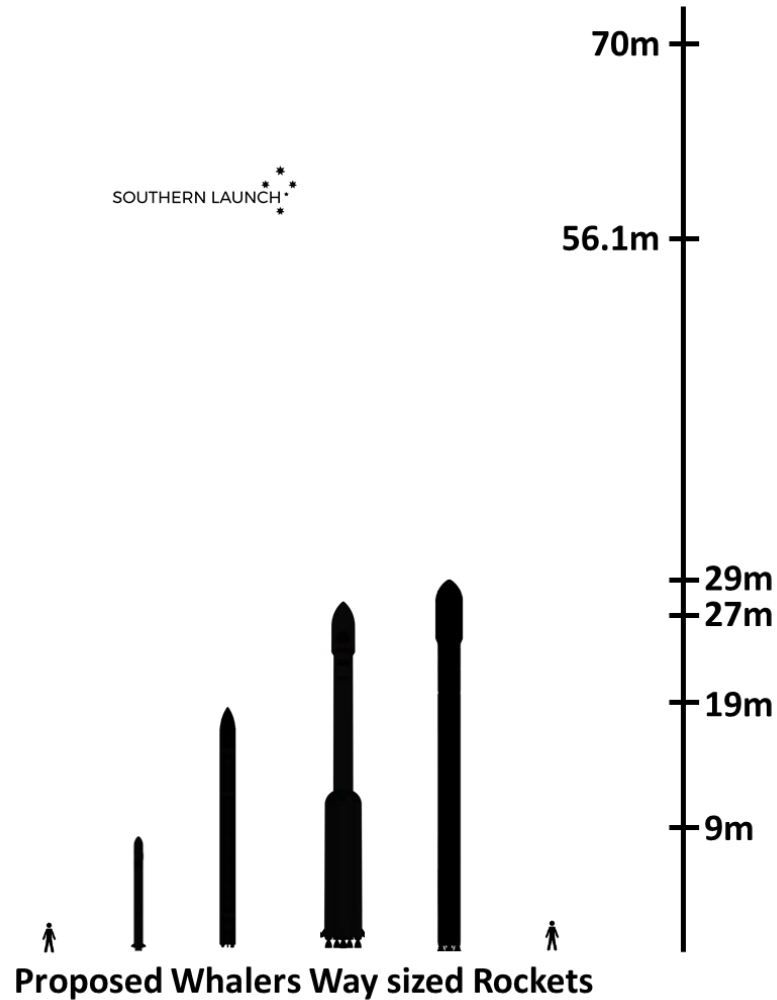
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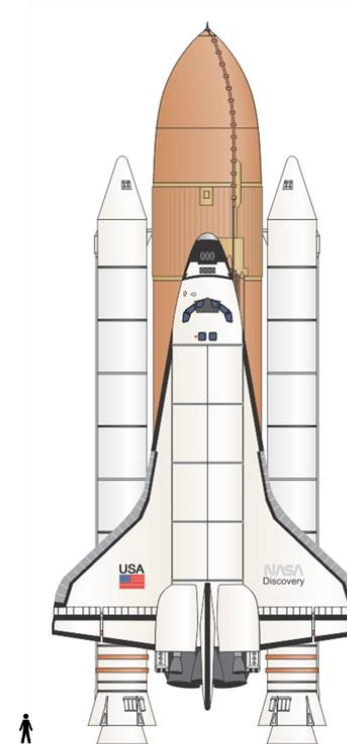
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Falcon Heavy



Space Shuttle