

22 Sep 2025

## Defining the Objectives of Lot 2, Port Paterson

### Introduction

With the acquisition of **Lot 2, Port Paterson Road, Port Paterson SA 5700** (“LOT 2”), Mareekh Dynamics has taken a significant step forward in its mission to merge cutting-edge space innovation with Australian ingenuity. This **8.1-hectare, half-kilometre-deep parcel of commercial port land-**zoned for *strategic industry and research* - will not only anchor our future prototypes but also symbolize our commitment to bridging science, innovation, and community engagement.

LOT 2 is more than land. It is the **foundation for the Australian Space Innovation Park**, a hub where Mars habitats, astronomical observatories, and advanced research facilities converge.

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### Core Objectives of Lot 2

#### 1. Craterhab Prototype Development

At the heart of Lot 2 lies the **Craterhab system** - our patented inflatable, pressurised habitat engineered for survival on **Mars** and **high-altitude environments on Earth**.

- Lot 2 will serve as the **construction and test site** for the first large-scale Craterhab prototype.
  - This prototype will validate our engineering assumptions, test pressurisation systems, and refine the structural performance of Dyneema-Kevlar composites.
  - The long-term goal is to transition from **proof-of-concept** to **production-ready habitats** for deployment in South America’s mining sector and, eventually, for Martian settlement.
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#### 2. Astronomical Infrastructure & LEO Debris Tracking

Lot 2 will become a strategic base for our **observatory network**, integrating past and future projects into a unified system:

- **SCOOP (Southern Cross Outback Observatories Project):** Our mobile observatory will be permanently based here.
- **Murray Hull Observatory (Flinders Ranges):** Restoration project to reconnect local heritage with modern science.
- **Andamooka Observatory:** Expanding community astronomy access in the outback.
- **Woomera-Baker Observatory Upgrade:** Revitalising a historically significant facility.

Together, these will operate as a **synchronised observatory array**, enabling our **patented dynamic triangulation protocol** for **LEO debris tracking**. This will be a world-first demonstration of **ground-based active debris removal (ADR) support** using optical characterisation.

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### 3. Public Engagement & Legacy Building

LOT 2 will also be a **gateway for the public into the world of space innovation**:

- Establishment of the **Mars Simulation Base**, giving communities and visitors an immersive experience of off-world living.
- A dedicated **Astronomical Observatory** at the site, providing year-round access to the southern skies.
- Creation of the **Australian Space Innovation Park**, combining research with tourism, education, and outreach.

This vision builds on our 2016 success when we launched SCOOP in Port Augusta, connecting communities with astronomy. Now, with Lot 2, we are scaling up that vision to inspire the **next generation of explorers, scientists, and innovators**.

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### Strategic Impact

1. **Positioning Mareekh Dynamics at the forefront** of both **space settlement technologies** and **orbital debris solutions**.
2. **Bridging industry, research, and community** in one integrated space.
3. Creating a **national landmark for space innovation** in South Australia, complementing our international initiatives in the Andes and beyond.
4. Securing a **long-term testbed and innovation hub**, ensuring continuity in our R&D pipeline.



The LOT 2  
Port Augusta



- The Red Horizon -  
Port Augusta Mars Simulation Base



Murray Hill  
Observatory  
Restoration  
Project



Woomera-Baker  
Observatory



Southern Cross  
Outreach Observatory  
Project (SCOOP)



Port Augusta