

STRATOSYST

HAPS SERVICES FROM STRATOSPHERE

The Stratosphere: A Cost-Effective Frontier for Space Research and Technology Demonstration
Jan Snížek

Problem

Today's technologies utilized for telecom, Earth observation or navigation have certain limits.

1

Satellites

high latency, limited data capacity, Space debris, high CAPEX, low temporal resolution



3

Drones

highly limited reach, operation constraints

2

On-Ground Infrastructure

limited reach, high CAPEX, damage-prone,



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These limits prevent current technologies to extend their services on a real global scale and at the highest possible quality at the same time.

Solution = HAPS

(High-Altitude Pseudo satellite)

What is HAPS

HAPS is an aircraft that flies over a specific location at an altitude 18 – 20 km above the ground for weeks to months.

Types of HAPS

Lighter than air (**Airships or Balloons**) or Heavier than air (**Aircraft**). Companies across the world are working on both types of the platforms.

What HAPS solve

HAPS are part of the infrastructure that we use every day for **telecommunication, weather prediction, traffic, maps etc.** Technology like satellites, ground stations or drones can't cover specific large areas (cities or remote areas) for a long period of time (days – months). Satellites are great for global coverage and drones for short missions.

HAPS platforms fill this gap. The platform can be used for 5G data or surveillance missions, can be launched within a day and can operate remotely.

Early adopters of these platforms are mainly telecommunication companies (AT&T, T-Mobile), Earth observation companies (Planet, Spire) and governments or agencies (NATO, ESA, NASA).

Products

From Testing to payloads



Skyrider

Civil HAPS platform

designed for EO, telecommunication and navigation for payloads up to 30 kg and missions up to 6 months.

TRL 6 now

TRL 9 in 2027

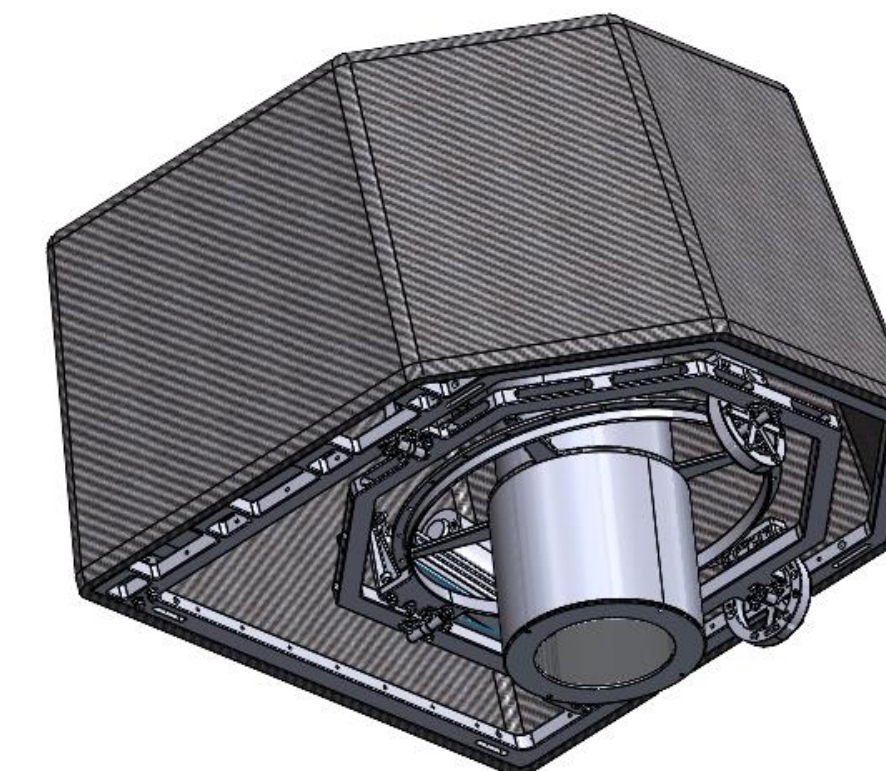


SkyScout

Balloon platform for EO

Super pressure balloon-based platform for EO and testing capable of several months of operation with vertical movement capability.

TRL 9 in 2026



Optical payload

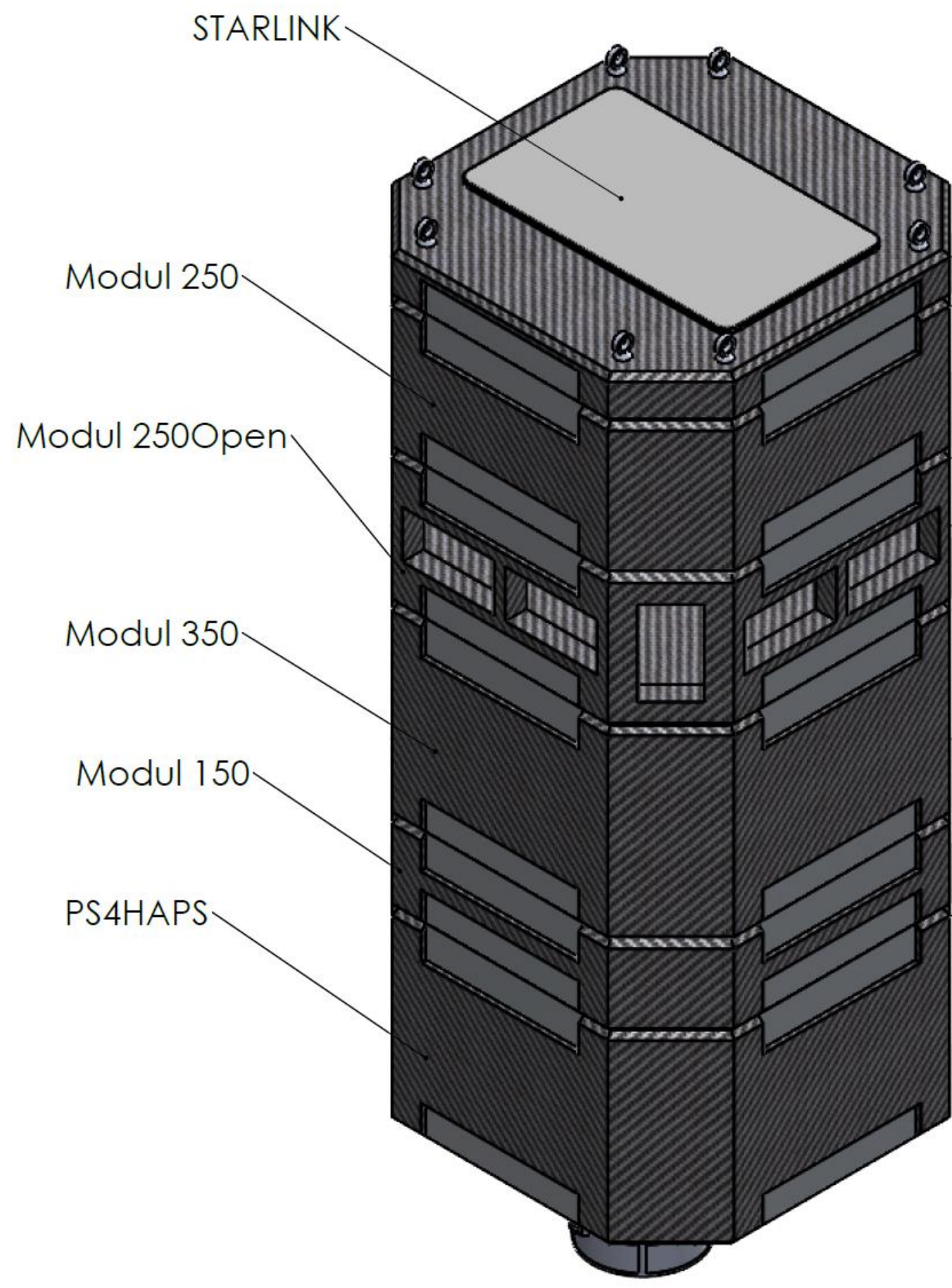
Development of multi-purpose optical payload

with interchangeable lenses for resolution up to 7 cm. Designed for stratospheric environment, usable for space & ground applications as well.

TRL 7 in 2025

SkyScout

Dual-chambre SP Balloon for longterm flight



Modularí gondola

The gondola is configured according to customer requirements. The basic modules include a power supply system, a telecommunications system, gyroscopic stabilization of the gondola, and an experiment module.



Canary Islands

European STRATOPORT

Canary Islands are located in a perfect region for initial HAPS testing.

The Stratoport has been built by Spain government and provides us with perfect location and facilities for ground and flight tests.

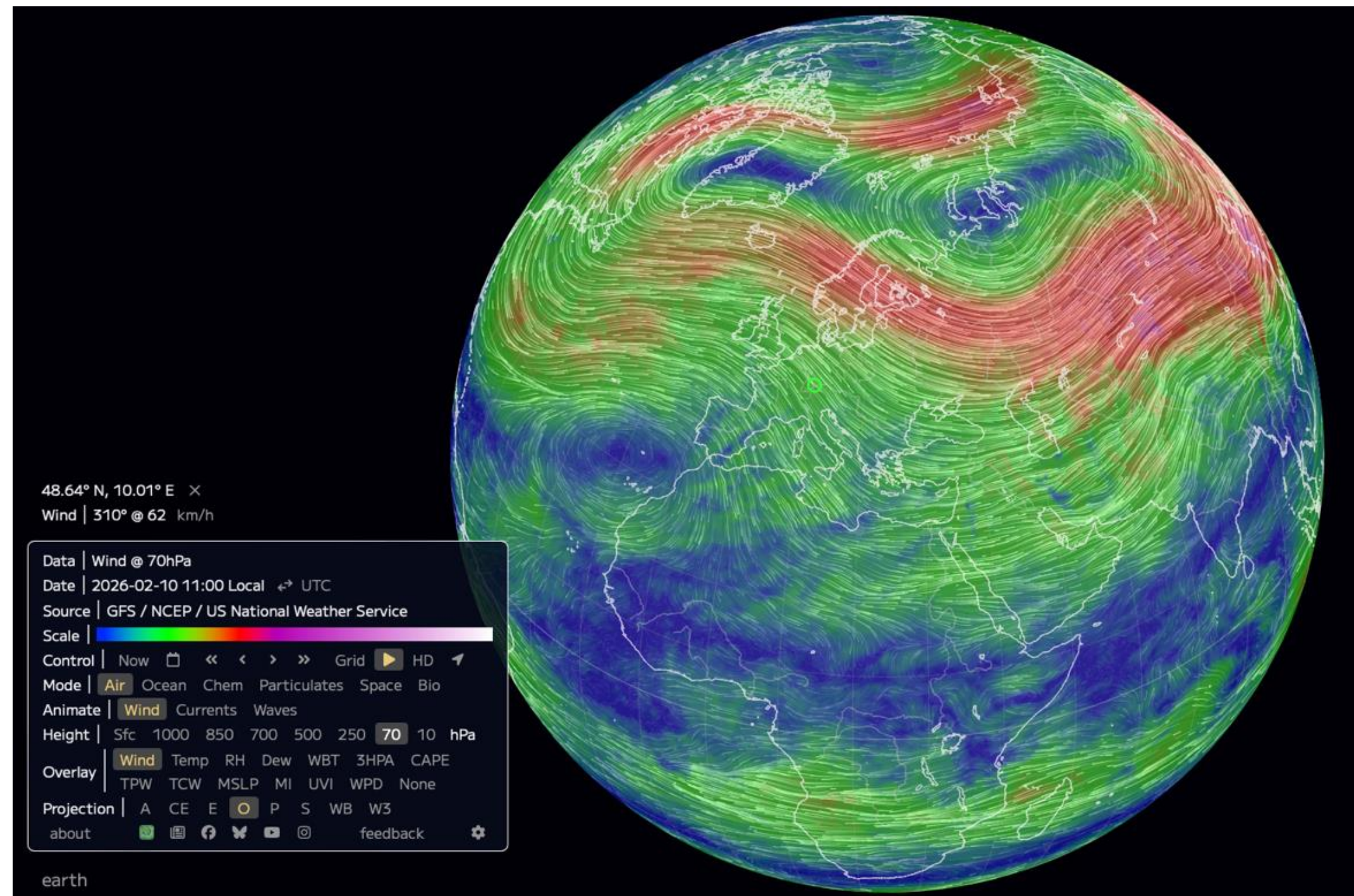
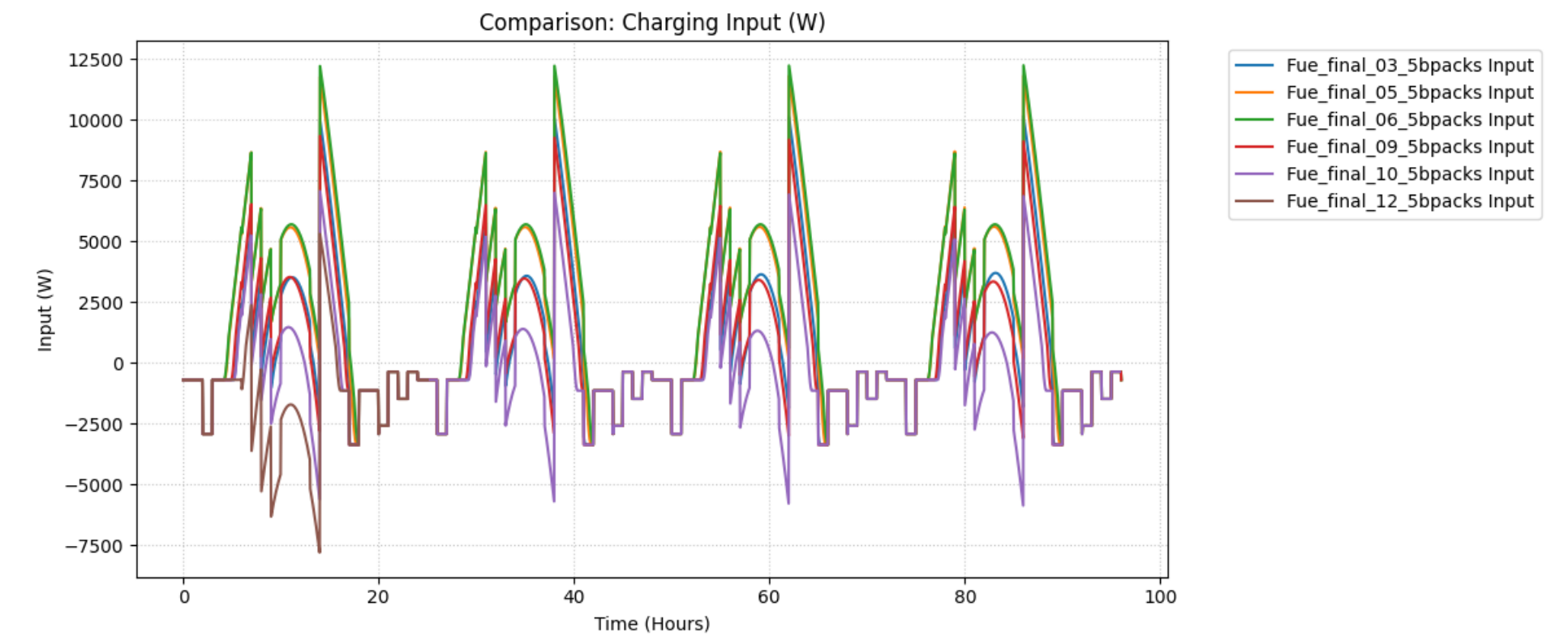
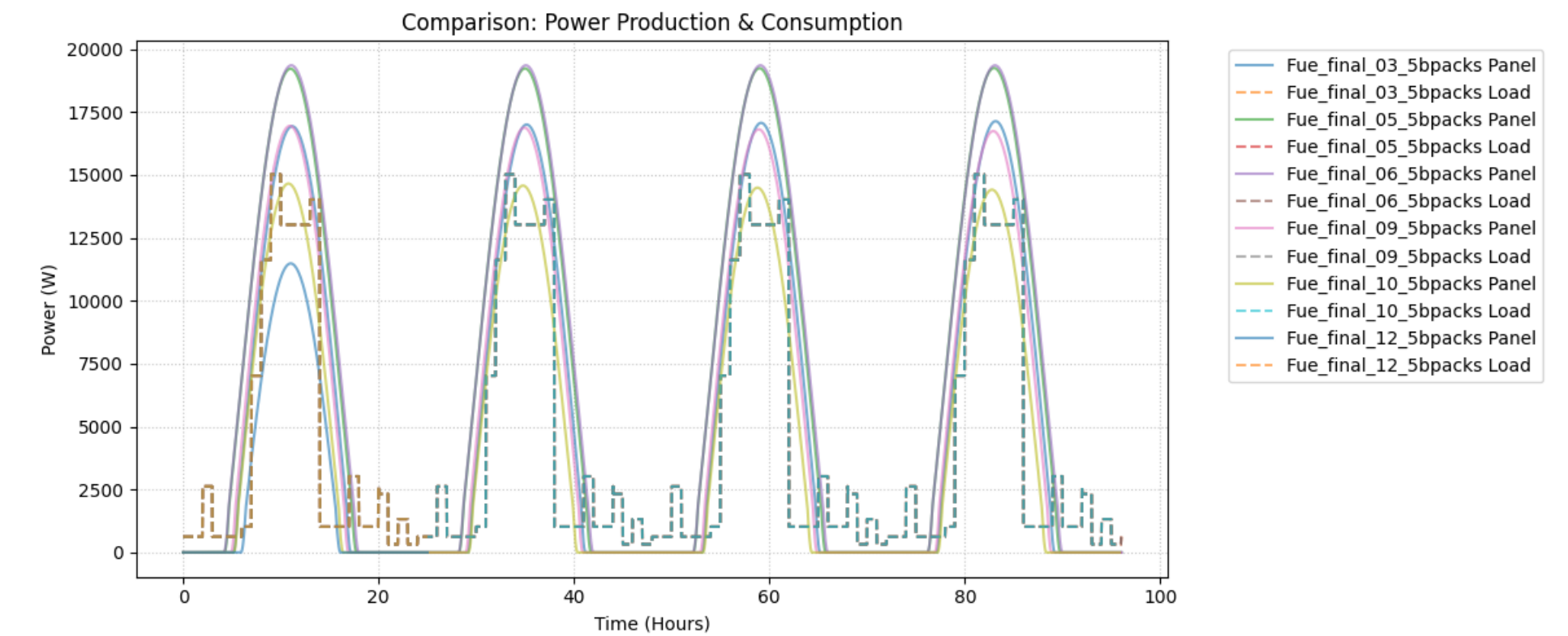
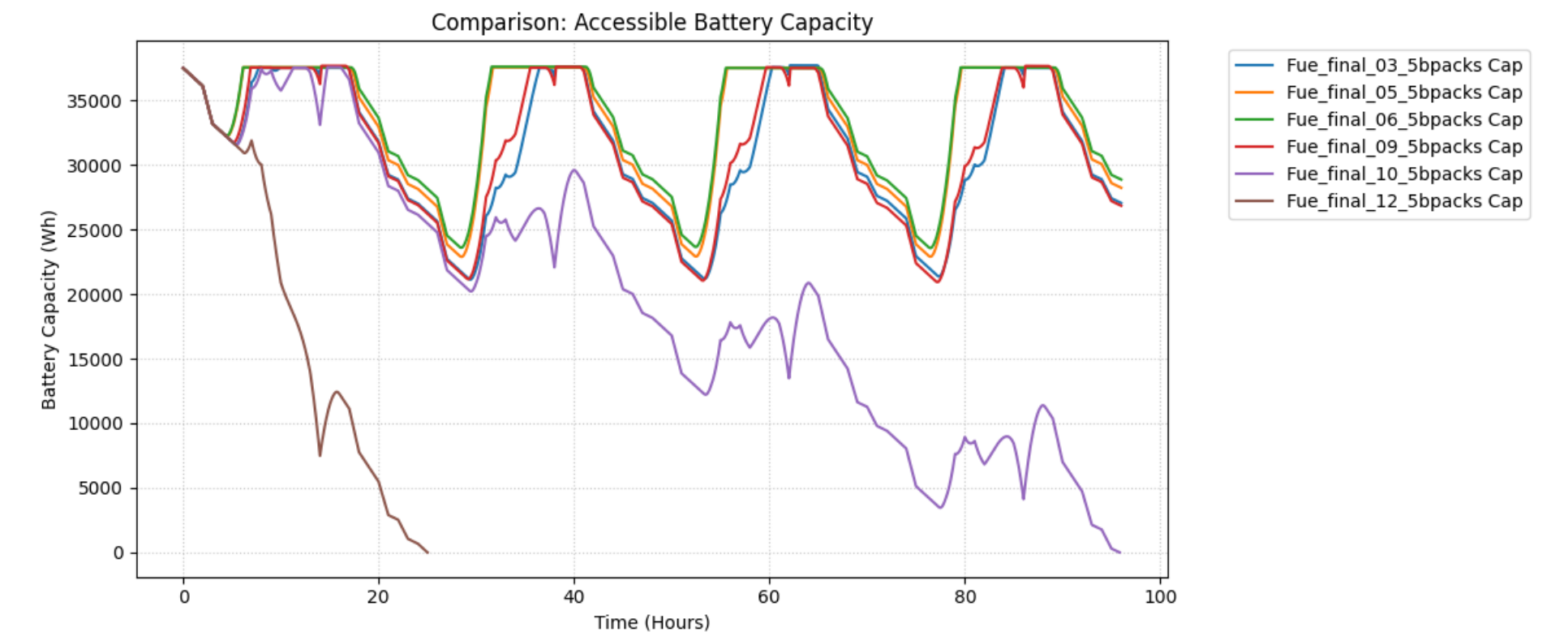
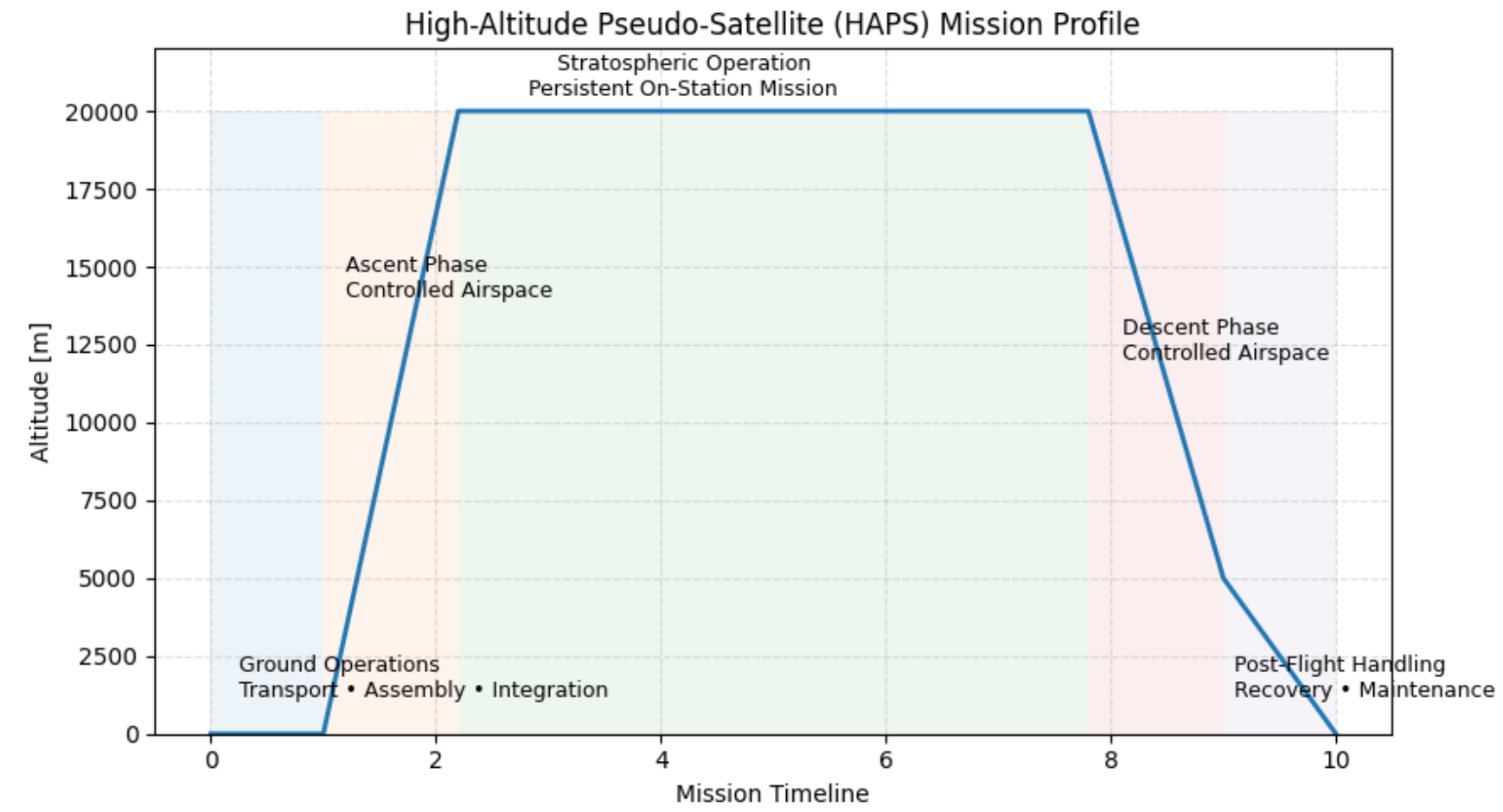
The remote location is important for regulatory purposes since we cannot fly over heavily populated areas.

The stratoport is already confirmed as a test location.



Digital Twin

Simulations vs testing





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Thank you



→ THE EUROPEAN SPACE AGENCY