

Current Market Size <=> Timeline of In-Space Economy

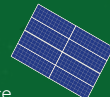
Large market

Small market

Existing market

Nearby market


Distant market

Space Solar Power 


Market: electricity on Earth
Dependency: Starship cost and cadence
Challenge: large scale, capital, early revenue
Status: best bet in 2024 for a large existing market

In-Space Construction 


Market: large structures, space solar power
Technology: assembly, manufacturing, ISRU
Dependency: space resources, launch
Challenge: market demand

Semiconductors (ISM) 

Description: space-grown crystals
Market: Earth now, future in-space
Dependency: new efficient processes, scale
Challenge: unit economics, techno-economic
Status: better, but are they better enough?

Pharmaceuticals (ISM) 

Description: space-grown crystals
Market: Earth
Dependency: launch costs, new drugs
Challenge: unit economics, techno-economic
Status: research, mass manufacturing TBD

Propellant Reloading 


Market: transportation, servicing
Dependency: launch costs, reusability
Challenge: unit economics, customers
Trends: Starship, reusability

Space & Lunar Mining 

Market: in-space manufacturing, Earth (TBD)
Technology: mining, beneficiation
Dependency: launch costs
Challenge: power, market demand

Landers 

Market: in-space, transportation
Dependency: launch costs, commercial
Challenge: unit economics, Starship
Status: NASA contracts, fully commercial TBD

Space Stations 


Market: manufacturing, research, tourism
Dependency: launch costs
Challenge: revenue sources
Trends: commercial services

Surface Facilities 

Market: Moon base, research, ISRU
Dependency: lunar landers, launch costs
Challenge: market demand
Status: slowed down by return to Moon

In-Space Recycling 

Market: space debris, manufacturing
Dependency: launch costs, regulations
Challenge: equipment, energy
Trends: ISRU technology development

Satellite Servicing 


Market: transportation, servicing, debris
Dependency: launch costs, new constellations
Challenge: unit economics, chicken-and-egg
Status: 2 commercial missions and new scheduled

Surface Mobility 

Market: surface transportation, ISRU
Dependency: lunar landers
Status: lander delays, NASA contracts

In-Space Internet 


Market: satellites, stations, lunar
Dependency: launch costs
Challenge: chicken-and-egg, Starlink
Status: several bankruptcies, Starlink entering

Small Re-Entry Vehicles 

Market: space-made products for Earth
Dependency: research funding
Challenge: market demand, unit economics
Competition: Dragon, Starship, space stations

Active Debris Removal 

Market: satellites, space debris
Dependency: launch costs, regulations
Challenge: market demand, economics
Trends: lower orbits, self-deorbiting, recycling
Status: demos, no regular commercial deals

Space Tugs 

Market: in-space, transportation, servicing
Dependency: launch costs, new markets
Challenge: unit economics
Trends: Starship, propellant reloading, reusability
Status: see for example Momentus financials