Cyclical Visits to Mars via Astronaut Hotels
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Global Aerospace Corporation is proposing to develop a revolutionary concept for an overall interplanetary rapid transit system architecture for human transportation between Earth and Mars which supports a sustained Mars base of 20 people circa 2035. This innovative design architecture relies upon the use of small, highly autonomous, solar-electric-propelled space ships, we dub Astrotels for astronaut hotels and hyperbolic rendezvous between them and the planetary transport hubs using even smaller, fast-transfer, aeroassist vehicles we shall call Taxis. Astrotels operating in cyclic orbits between Earth, Mars and the Moon and Taxis operating on rendezvous trajectories between Astrotels and transport hubs or Spaceports will enable low-cost, low-energy, frequent and short duration trips between these bodies. This proposed effort provides a vision of a far off future which establishes a context for near-term technology advance, systems studies, and human spaceflight. In this fashion Global Aerospace Corporation assists the NASA Enterprise for Human Exploration and Development of Space (HEDS) in all four of its goals, namely (1) preparing to conduct human missions of exploration to planetary and other bodies in the solar system, (2) expanding scientific knowledge (3) providing safe and affordable access to space, and (4) establishing a human presence in space. Key elements of this innovative, new concept are the use of:

- Five month human flights between Earth and Mars on cyclic orbits,
- Small, highly autonomous human transport vehicles or Astrotels,
  - In cyclic orbits between Earth and Mars
  - Solar Electric Propulsion for orbit corrections
  - Untended for more than 20 out of 26 months
  - No artificial gravity
- Fast-transfer, aeroassist vehicles, or Taxis, between Spaceports and the cycling Astrotels,
- Low energy, long flighttime orbits and unmanned vehicles for the transport of cargo,
- In situ resources for propulsion and life support,
- Environmentally safe, propulsion/power technology