

Hyperloop

September 28, 2020

Hyperloop is a new form of ground transport currently in development by a number of companies, It could see passengers travelling at over 700 miles an hour in floating pods which race along inside giant low-pressure tubes, either above or below ground.

Features of Hyperloop

- The speed of conventional trains and all land based transport is **limited by friction, both against the air ahead and the ground beneath**. Hyperloop drastically reduces friction in both of these areas.
- The pods carrying passengers travel through tubes or tunnels from which most of the **air has been removed to reduce friction**. This should allow the pods to travel at very high speeds.
- The hyperloop pods, each containing a handful of passengers are **held above the ground by a layer of air**, similar to how the puck of an air hockey table floats across its surface.
- Overcoming air resistance is one of the biggest uses of energy in high speed travel. Airliners climb to high altitudes to travel through less dense air; in order to create a similar effect at ground level, Hyperloop **encloses the capsules in a reduced-pressure tube**.
- The pod would get its **initial velocity from an external electric motor**, which would accelerate it to 'high subsonic velocity' and then give it a boost every 70 miles or so; in between, the pod would coast along in near vacuum.
- It is lower cost and more energy efficient because the **track doesn't need to provide power to the pods continuously** and the pods can leave every 30 seconds, it's more like an on-demand service.

