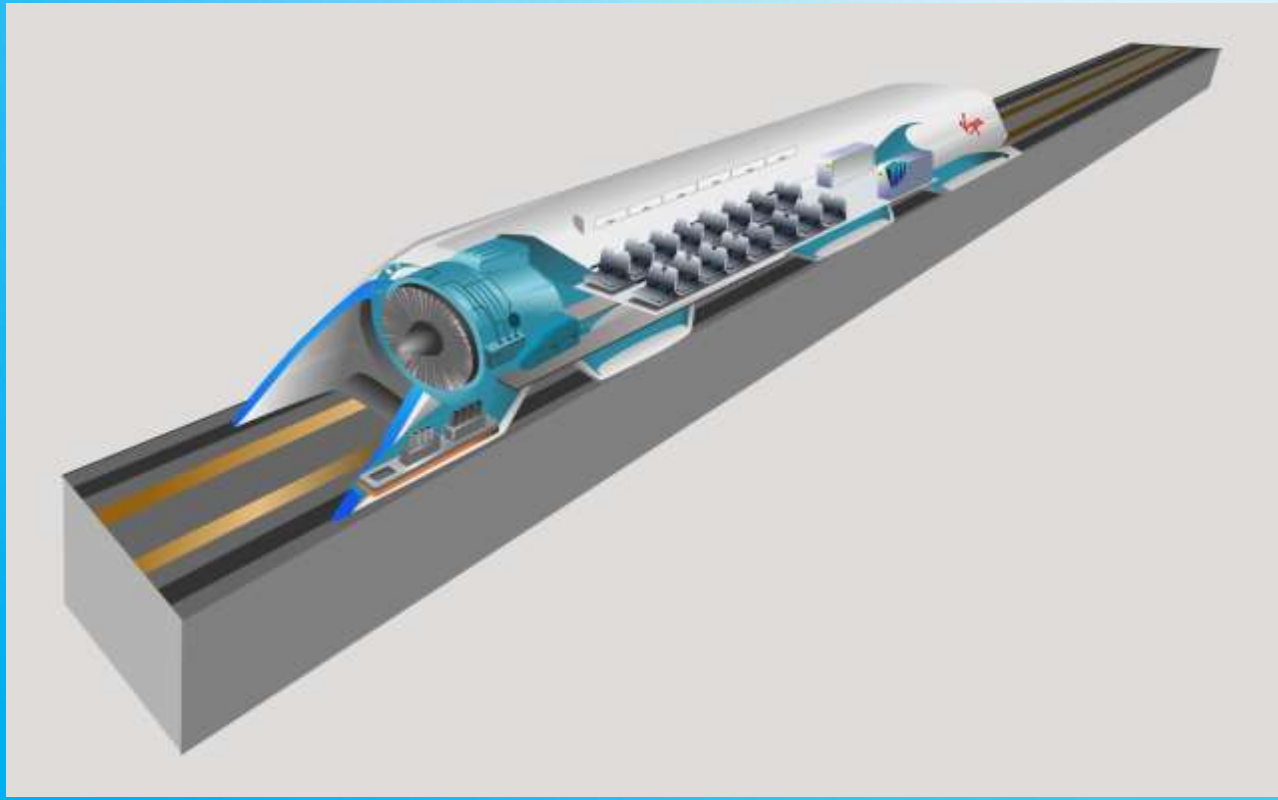
PRESENTATION ON

FUTURE MODES OF TRANSPORTATION

HYPERLOOP

THE PASSENGER TRANSPORTATION SYSTEM

The fifth form of transportation



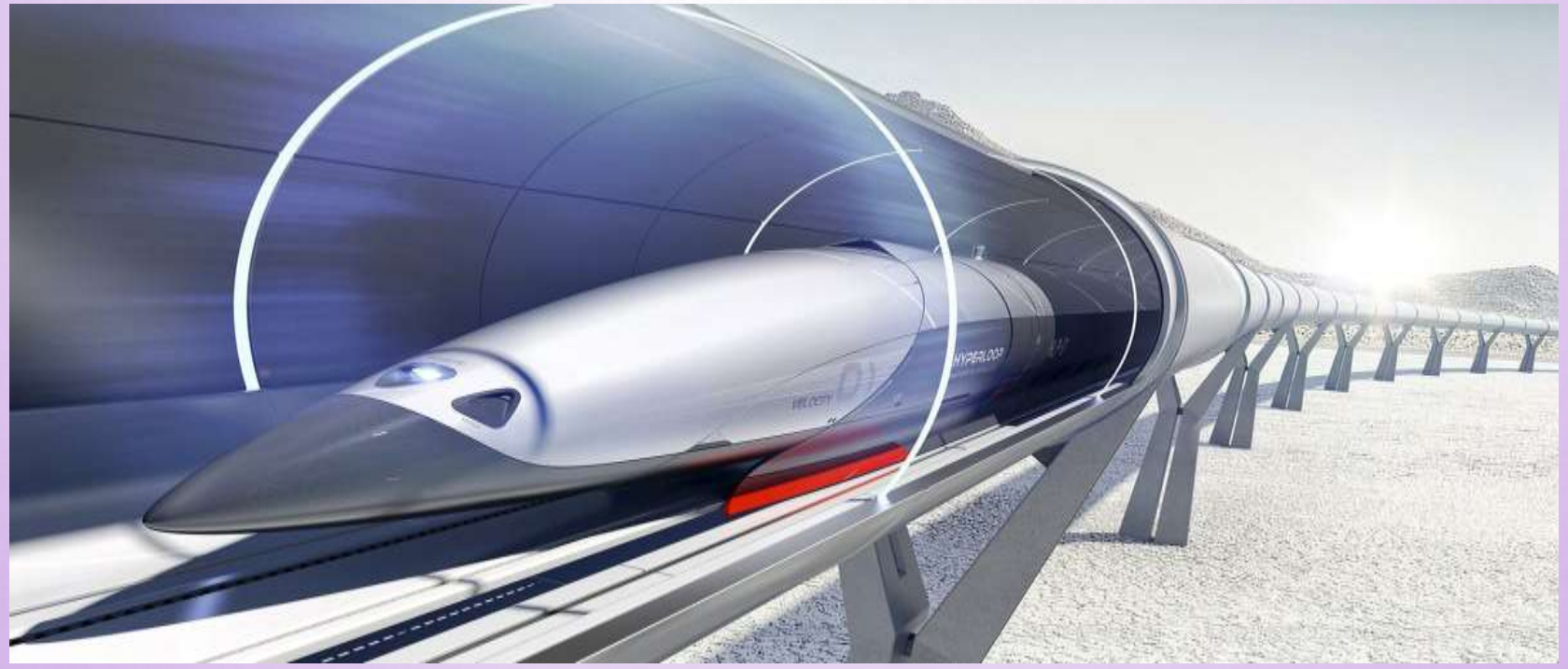
ANOTHER MODES OF TRANSPORTATION

- RAIL. RELATIVELY SLOW
- ROAD. RELATIVELY SLOW
- WATER. RELATIVELY SLOW
- AIRWAYS. VERY EXPENSIVE

INTRODUCTION

- HYPERLOOP IS NEW MODE OF TRANSPORTATION.
- IT IS PROPOSED BY ELON MUSK AMERICAN BUSINESSMAN, INVESTOR AND INVENTOR. HE IS CURRENTLY CEO AND CTO OF SPACE X AND CEO AND PRODUCT ARCHITECT OF TESLA MOTORS.

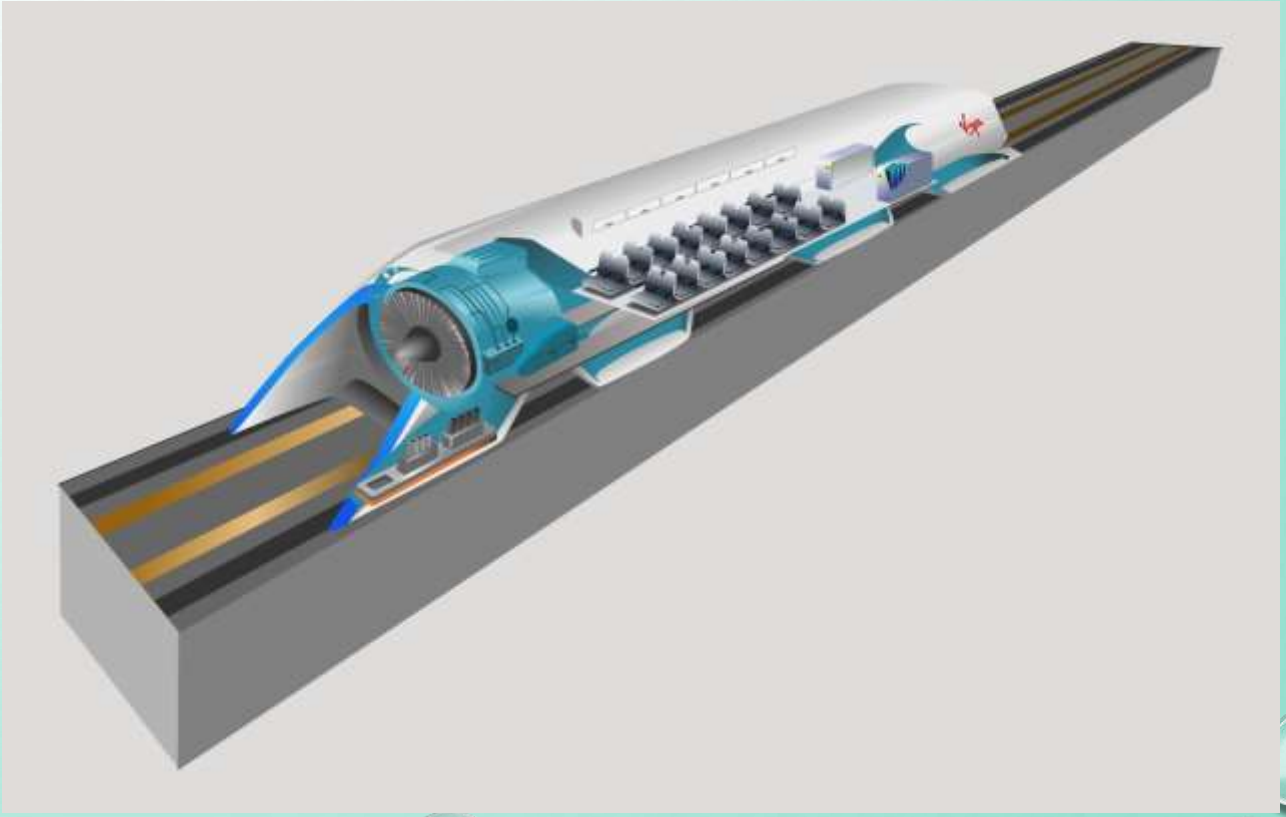
CONCEPT



- A CAPSULE FULL OF PEOPLE IN A LOW PRESSURE TUBE ELEVATED ON PYLON GOES REALLY FAST.

COMPONENTS OF HYPERLOOP

1. TUBES
2. CAPSULE
3. PROPULSION



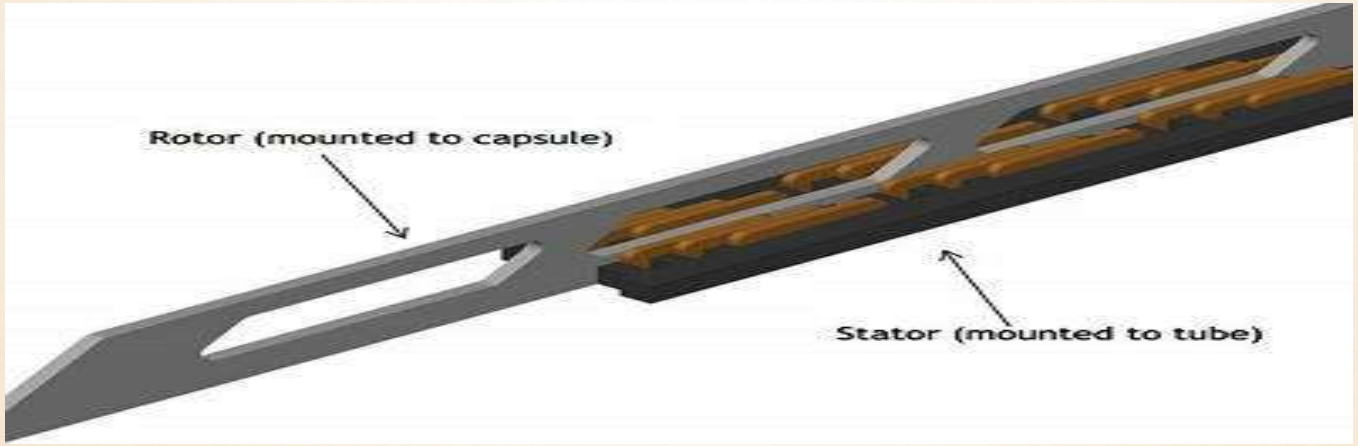
TUBE

- THE TUBE IS MADE OF STEEL AND HIGH STRENGTH GLASS FIBER.
- PYLONS ARE PLACED EVERY 100 FEET FOR SUPPORT THE TUBE.
- TUBES ARE MADE BY THE NEW MATERIAL VIBRANIUM.

CAPSULE

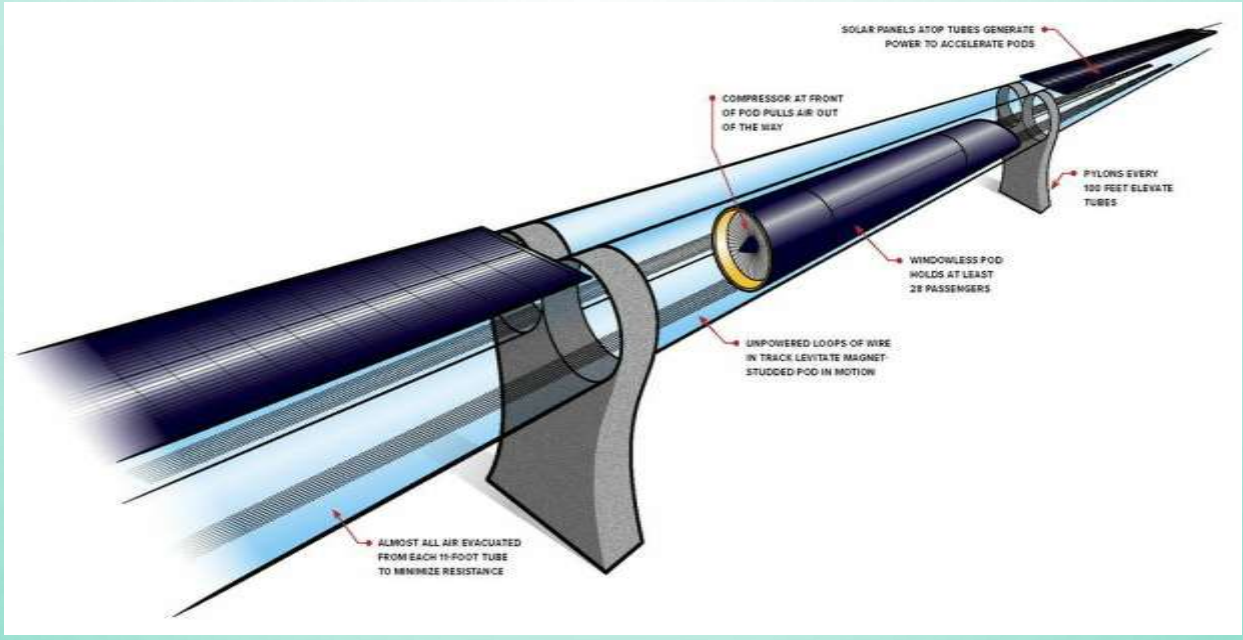
1. SEALED CAPSULE CARRING 28 PASSANGERS EACH THAT TRAVEL ALONG THE INTERIVE THE TUBE
2. THE CAPSULE ARE SUPPORTED VIA AIR BEARINGS THAT OPRATE USING A COMPRESSED AIR RESERVOIR AND AERODYNAMICS LIFT

PROPULSION



- LINEAR ACCELERATION ARE CONSTRUCTED ALONGTHE LENGTH OF THE TUBE AT VARIOUS LOCATION TO ACCELERATE THE CAPSULE ST ATACS ARE LOCATED ON THE CAPSULE VIA THE LINEANR ACCELERATION.

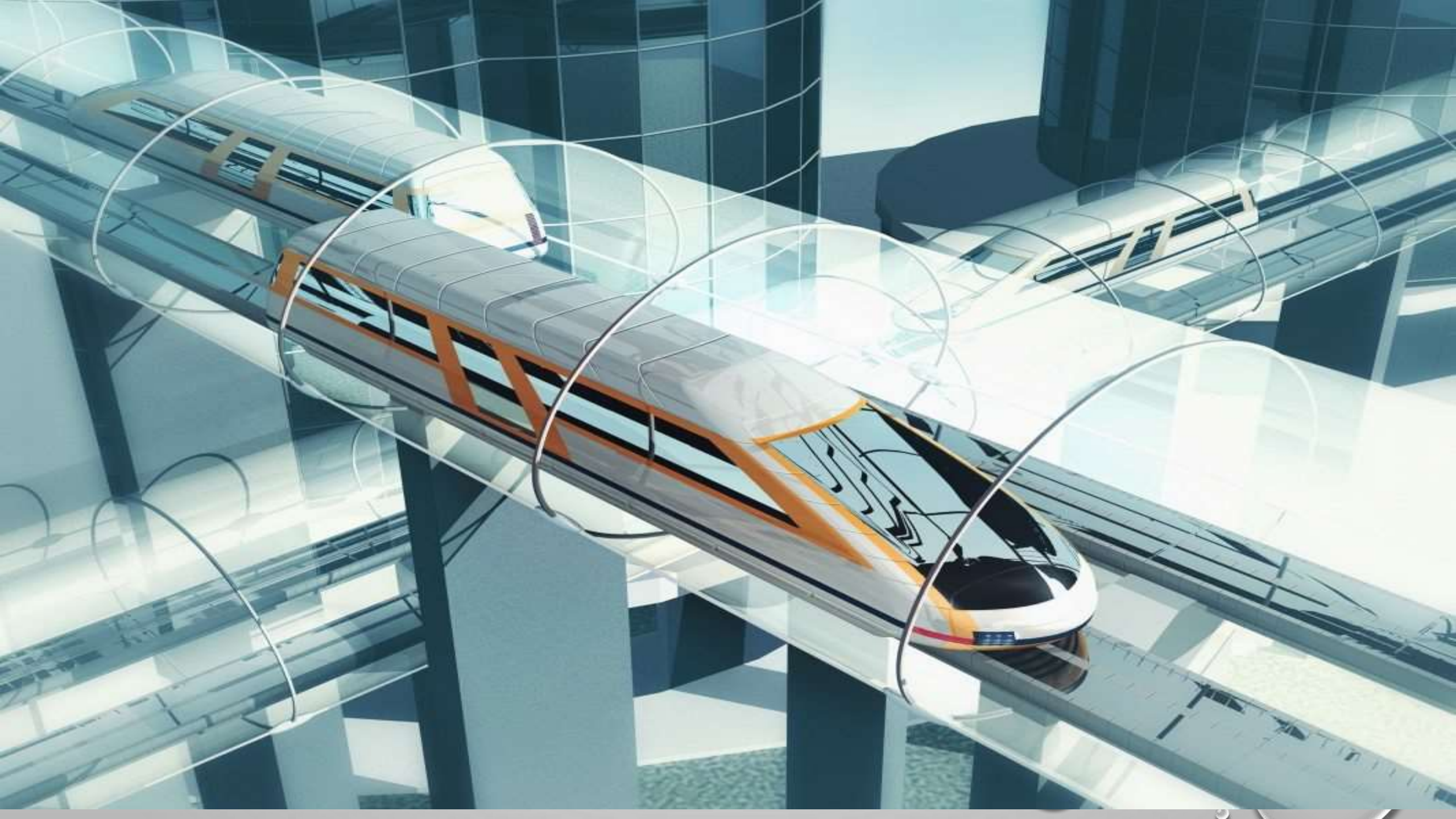
CONSTRUCTION



- IN THE CONSTRUCTION OF HYPERLOOP THE TUBE IS CONSTRUCTED ON THE CONCRETE PILLARS. THE DIFFERENCE BETWEEN TWO PILLARS IS 100 FEET.

WORKING PRINCIPLE

- SIMPLY IT HAS THE SAME WORKING PRINCIPAL OF AIR HOCKEY.
- THE PODS WOULD ACCELERATE TO CRUISING SPEED GRADUALLY USING LINEAR ELECTRIC MOTOR AND GLIDE ABOVE THE TRACK USING PASSIVE MAGNETIC LEVITATION OF AIR BEARINGS.
- IT IS LEVITATED AND PROPELLED FORWARD USING POWERFUL ELECTRO MAGNETS. THIS ITSELF CONSIDERABLY REDUCES THE LOSSES DUE TO THE CONSUMPTION OF FUELS AND FRICTION AS THE TRAIN GLIDES OVER THE TRACK AND THERE IS NO CONTACT WITH THE TRACK. HENCE THERE ARE NO FRICTIONAL LOSSES ALLOWING THE TRACK TO MOVE HIGH VELOCITY. THE ABSENCE OF AIR IN THE HYPERLOOP WILL FURTHER INCREASE THE EFFICIENCY BY NEARLY ELIMINATING LOSSES DUE TO AIR DRAG AND MAKE IT MUCH FASTER.
- COMPRESSOR IS ALSO USED FOR INCREASE SPEED.



ADVANTAGES

- LOW COST THAN HIGH SPEED.
- HIGH SPEED THAN ALL OTHER TRANSPORTATION METHODS.
- MORE CONVENIENT
- IMMUNE TO WEATHER
- SAFER
- SUSTAINABLE SELF POWERING

LIMITATIONS

- TUBE PRESSURIZATION.
- LESS MOVABLE SPACE FOR PASSENGERS.
- TURNING WILL BE CRITICAL.

CONCLUSION

- AS IT HAS NUMBER OF ADVANTAGES, IT WILL BE VERY HELPFUL FOR TRANSPORTING PUBLIC AS WELL AS GOODS IN VERY SHORT TIME (AT TOP SPEED OF 1250 KMPH) AND ALSO AT LOW COST.
- IT IS A NEW CONCEPT SO SOME FUTURE WORK WILL BE REQUIRED FOR DEVELOPMENT OF THIS PROJECT.

THANK YOU