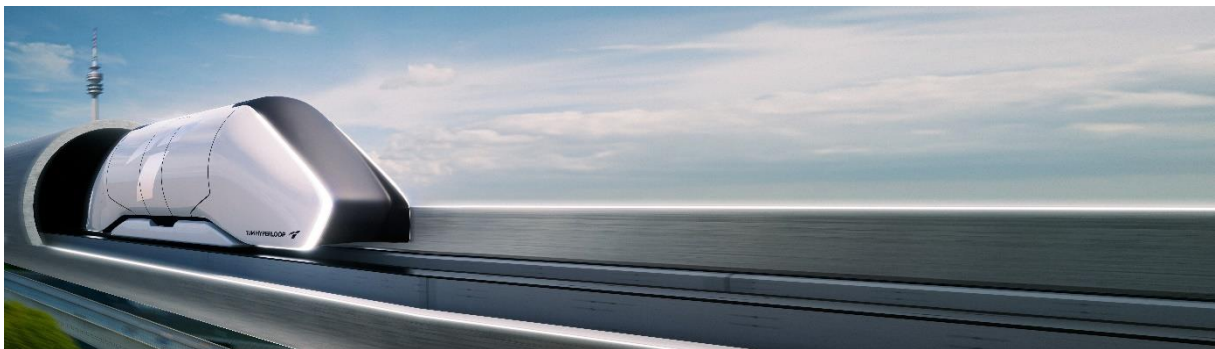


TUM Hyperloop: Development and Kinematic Design of an Hyperloop Boarding System

Type: Bachelor's, Semester, or Master's Thesis
Content: theoretical, designed
Possible start: 01.10.2024

The TUM Hyperloop Program is envisioning a future where travel is faster, more efficient, and environmentally sustainable. Having successfully completed the development and construction of Europe's first passenger-size hyperloop demonstrator, we are now transitioning to the next critical phases: extending our test track for more comprehensive evaluations, advancing the maturation of our technology, and scaling our operations to meet future deployment objectives.



Thesis Description

You will be responsible for developing and designing a Door Locking kinematic as part of the Hyperloop Boarding System allowing passengers to enter and exit pods while keeping them separated from the vacuum environment inside the tube.

Your Tasks

- Research the State of the art in Pressure tight Door/Airlock Systems (i.e. Aerospace, Space Flight, ...)
- Develop and conceptualize a fully automated kinematic system considering all relevant requirements including safe transmission of high loads resulting from the pressure differential.
- Validate the Design Concept simulatively and by means of Prototyping (Additive Manufacturing)

Our Requirements

- Readiness to learn and understand a new complex research topic in short time.
- High motivation and willingness to make an impact.

Our Offer

- Working with students in a highly motivated young research team.
- Getting experience in state-of-the-art passenger transportation systems.
- Helping to shape the next-generation passenger transport system.