Carl von Ossietzky Universität Oldenburg

University of Applied Sciences
HOCHSCHULE EMDEN·LEER

Institute of Hyperloop Technology
Emden | Leer | Oldenburg | Lathen

Institute of Hyperloop Technology

University of Applied Sciences Emden/Leer
Institute of Hyperloop Technology
&
Carl von Ossietzky University Oldenburg,
School of Mathematics and Science

www.iht-emden.de

What is Hyperloop

The Hyperloop, a new mode of transportation, is an emerging concept for mid- to long-distance travels as a carbon-free alternative to airplanes and as a complement to the railway network.

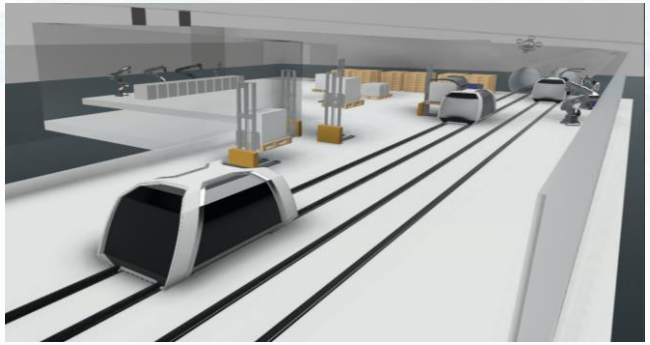
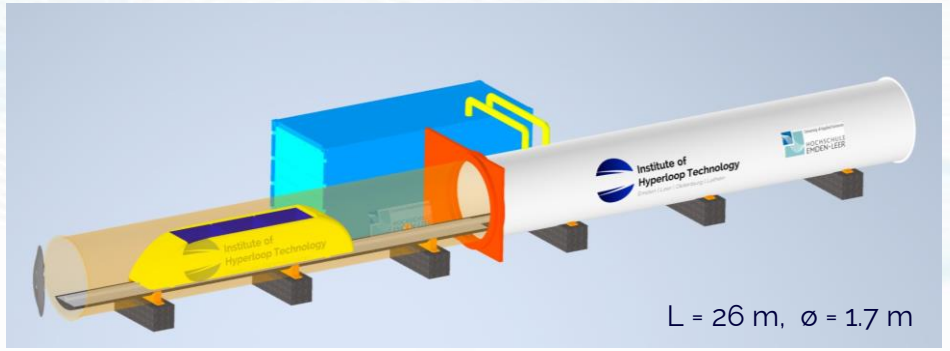
This plan serves to both preserve investments already made and planned, as well as unlock the full economic and social development of areas not yet served by premium modes of transportation. The Hyperloop is a rail-bound mode of transport that operates magnetically levitating vehicles running at sonic speed within a low-pressure tube. Such a concept is set to rely exclusively on renewable sources like solar energy also leveraging the extension of the linear infrastructure as a whole.

This concept is the key to long-distance sustainable transport and a major contributor to achieve the GHG reduction target set by the EC for 2030 and 2050.

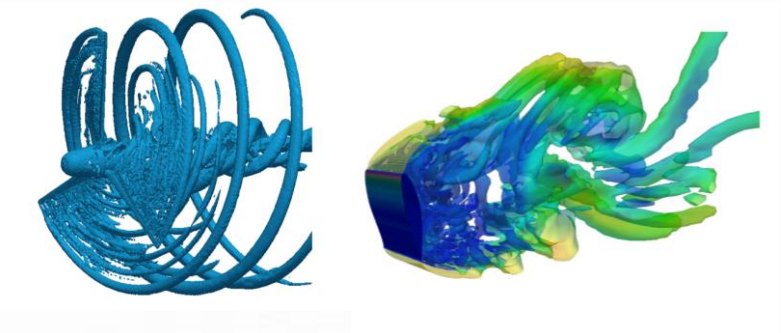
Vision & Mission

Vision: Zero emission in high-speed transportation for climate neutrality and economic prosperity.

Mission: The Institute of Hyperloop Technologies serves as system integrator by developing, validating and integrating hyperloop technologies for a sustainable new mode of transportation.

CargoTube Logistics	GoTube Hyperloop Facility, Emden	EU Hyperloop Large-Scale Research and Technology Infrastructure and Network
		

Competences

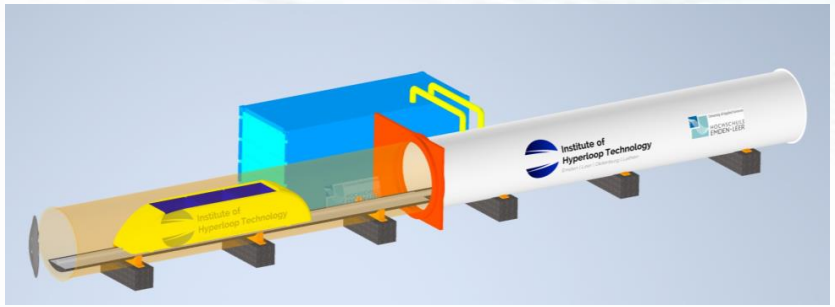


Fluid Dynamics
Simulation and wind tunnel

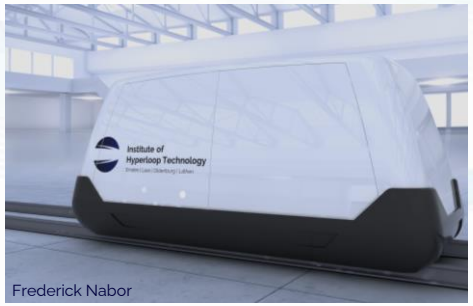
Control and automation
Robotic cargo handling

Energy-, power systems and grid
Laboratory and real world data

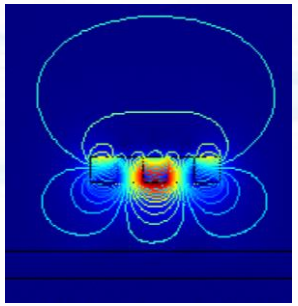
Physics, vacuum technologies
Full-scale vacuum system

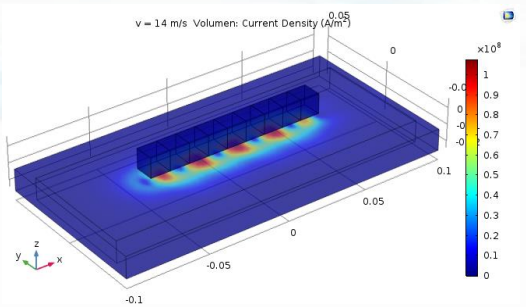


Design, Engineering, and construction



Magnetic Levitation and Propulsion
Full test and demonstrator setups





Projects

ePIcenter

Impact of new technologies and trade routes

Application of CargoTube in industrial logistics

ePIcenter Results

Hyperloop Development Programe

European Hyperloop Roadmap

hyperloop development program

www.hyperloopdevelopmentprogram.com

Transfer Center Sustainable Mobility

Rooting sustainable transport technologies such as hyperloop in local industrial supply chains

www.transferzentrum-nachhaltige-mobilitaet.de

Hyper4Rail

FA7 Hyper 4Rail

Teaching and Learning in Higher Education

- Research-based Learning

  Hyperloop Competitions and Projects

- Lectures & Seminars

  International Hyperloop Seminar - Presentation of thesis work and industry expertise of hyperloop technologies

www.vacuumtransport.org

- Bachelor, Master & PhD

People at IHT

Prof. Dr. rer. nat. Walter Neu

Head of IHT

Prof. Dr. Walter Neu has been the faculty advisor for the student team “HyperPodX” in all three competitions advising on physics-related questions. Accompanying the team he has created a network for future Hyperloop research by connecting to supporters in politics and industry. He is now focussing on bringing European partners together to initiate research and collaborative projects while developing new technical innovations for Hyperloop technology.

Prof. Dr.-Ing. Thomas Schüning

Head of IHT

Prof. Dr.-Ing. Thomas Schüning started Hyperloop as the faculty advisor for the team “HyperPodX” supporting the team with technical insights in all three competitions. Whilst advising on the team’s prototyping he connected to partners in industry and academy covering necessary Hyperloop technologies. By bringing European initiatives together he is now focussed on advancing the technical realization of the Hyperloop and works on additional technologies for future transportation.

Lukas Eschment

PhD Candidate

Lukas Eschment helped initiate and is coordinating projects at the Institute of Hyperloop Technology. After starting with the Hyperloop Pod Competitions, he is now focusing his work on a European Hyperloop Large-Scale Technological Research Infrastructure. He is involved in standardization at national and European level, EU projects and Hyperloop Programs like ePIcenter, the Hyperloop Development Program and the EU HyTeC project. Today he is focussing on forming partnerships and consortia including industry and academia with the goal of developing future transportation.

Gisela Colgen-Schultz

Project Assistant

Gisela Colgen-Schultz is our project assistant, providing administrative support to our team. In this role, she is responsible for coordinating meetings, managing project documentation, and providing general administrative assistance to the team. If you have any questions or require assistance with a project-related matter, please do not hesitate to contact Gisela Colgen-Schultz at Gisela.Colgen-Schultz@hs-emden-leer.

Marcel Stamm

Mechanical Engineer

Marcel Stamm has been part of the team since 2022. He is responsible for the design and construction of a vehicle prototype. It will be constructed for the test track at the University of Applied Sciences Emden/Leer and provide information about the behavior of components under application-dependent conditions. He completed his studies at the University of Applied Sciences in mechanical engineering with a specialization in design and development.

& Project, Bachelor and Master Students