

Geographical potential for vacuum transportation in Europe

Short Description

Emissions from the transport sector accounted for over 24% of global CO₂ emissions in 2016 and continue to rise rapidly, primarily due to the rapid growth of air travel. For this reason, there is an urgent need for more sustainable transport infrastructures to reduce emissions and meet global climate targets. Vacuum transport (VT) can serve as a sustainable transportation alternative. Vacuum transport systems move passengers and/or cargo above or below ground through low-pressure tubes, achieving greater efficiency through reduced friction and aerodynamic drag (also known as Hyperloop). This opens up the potential for VT to provide high-speed transportation with reduced energy consumption.

The objective of this thesis is to identify geographically favorable locations for the implementation of vacuum transportation technologies. The analysis will encompass factors such as political landscape, demographics, foot traffic, accessibility, and competition, considering their impact on potential locations. The aim is to determine the most appealing locations in Europe and establish potential commercial routes connecting these attractive locations. Collaboration with a team comprising members specializing in transportation management and business would facilitate the comprehensive exploration of this subject.

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| Type | Master or bachelor thesis |
| Partner | Home university and EuroTube Foundation |
| Start date | TBD |
| End date (planned) | TBD |
| Internal supervisor | TBD |
| External supervisor | Damla Karapinar, damla.karapinar@eurotube.org |

Work packages

- Literature Review
- Data Collection
 - Gather geographical, demographic, political, and economic data of potential locations in Europe
 - Gather data related to foot traffic, accessibility, and competition
- Location-Based Analysis
 - Analyze the collected data to evaluate the suitability of locations for implementing vacuum transportation technologies
 - Evaluate the effects of politics, demographics, foot traffic, accessibility, and competition on location suitability
- Identification of Attractive Locations and Routes
 - Identify the most attractive locations in Europe for implementing vacuum transportation technologies
 - Identify potential commercial routes connecting these attractive locations
- Conclusion and Recommendations

Requirements

- High motivation and interest in the topic
- Able to work independently and be creative
- Methodological and goal-oriented working behavior
- Knowledge about vacuum transport technologies is beneficial

Application

Please email your CV and transcript to damla.karapinar@eurotube.org