Head: Prof. Dr. K.W. Axhausen

Title: Swissloop: Cost Benefit / Demand Analysis

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Registration: http://www.ivt.ethz.ch/studium/downloads/aufgabenstellungen#anmeldung

Brief description:

Conduct a cost analysis study of the Hyperloop System. At the level of Switzerland, one could work with the National Passenger Transport Model. Determine cost and benefit variables for this project. Parameters - pricing, scaling, time savings, reliability, sensitivity analysis, NPV, operation cost, maintenance, set-up costs. Quantitatively compare the costs and the benefits. Take into account tangible and intangible costs. Impact is studied with respect to Switzerland. Study the revenue stream and forecasting sales/performance. Travel demand estimation and analyze patterns.

Project:

Swissloop (https://swissloop.ch/), the idea of the so-called Hyperloop was unveiled by SpaceX founder Elon Musk back in 2013. It proposes a novel high-speed ground system allowing you to travel from Zürich to Berlin in 40 minutes. As neither SpaceX nor Tesla is developing a commercial Hyperloop themselves, they announced an open competition, gearing towards university students to design and construct the best Hyperloop pod. To support this competition SpaceX is constructing a one-mile test track, where the university teams are able to test their human scale pods. Our team is looking for students to conduct a feasibility analysis of the system under the Institute of Transport Planning and Systems (IVT) at ETH Zurich. Close coordination with the Swissloop Engineering team is expected.

Topic: Cost Benefit / Demand Analysis

ECTS: 24 credits

Course of study: D-BAUG, D-USYS, D-MTEC, Geography (University)