HSLU|IDA Module|Re-thinking Waste|Sahar Koloushani-Yuri Maurer-Grace Wu|June 2020

Green-Mile
Efficient Mobility System

Discription

Green-Mile are autonomous electric vehicles, provide the opportunities to travel individually or with other people, minimizing the time of the travel as well as the cost in comparison to other public transportation service in Switzerland. Green-Mile provides cars based on commutes' demands, people can order an autonomous car whenever and wherever they want. These autonomus electric cars are equipped with dynamic charging system that allows them get charged through electric rails implemented on highways while they are moving.

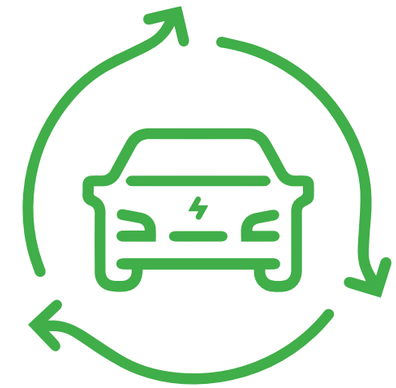
Process

1. A commuter needs to travel to his destination which takes around 50 minutes by using two buses and one train which is cost 17.- CHF.

2. The commuter decides to use Green-Mile services. He enters his current location and destination in Green-Mile application.

3. The application shows him the option of traveling alone for 20 minutes with the price of 20.- CHF or traveling with other passengers for 30 minutes which costs 15.- CHF.

4. The commuter selects to travel with others. Then he pays the cost of his travel via the app.



5. A Green-Mile autonomous e-car picks up the commuter in front of his home after 5 minutes.

6. The autonomous electric car's battery gets charged from two tracks of rail in the road via a movable arm attached to the bottom of the vehicle.

7. The vehicle stops on the way to pick up and/or detach other passengers.

8. After 30 minutes the commuter arrives at his destination and detaches.

Features

Decrease the time of the journey
Choice of travelling solo or in a group
No need to make arrangement with a driver
Travel routes of different individuals are combined with artificial intelligence
Zero fuel consumption
Environmentally friendly journey
Dynamic charging system
Available all over Switzerland

New battery technology with biodegradable, recyclable, harmless materials from responsible sources, and high environmental standard (Swiss/European) production.
Car taxation, increased tax for combustion engine (less efficient) cars.
Energy source, Electricity for EV must be renewable (consumer choice for energy source). No use of nuclear or fossil energy.

Green-Mile Technology and Properties

Green-Mile's electric vehicles are fully automated. The combination of technology and physical components brings a new mode of transportation with the highest rate of efficiency for both society and the environment.

Technologies
Autonomous vehicles
Navigational system/GPS
AI software

Key Properties
Electric Vehicle Battery
Ride-share Platform
Application

Dynamic Charging
Movable arm attached to the bottom of vehicle
Electric tracks on highways

User's Wants and Needs

- Arriving at a destination without changing the vehicle multiple times.
- Do not bother by make arrangement with a vehicle's driver.
- Traveling in some specific times (after midnight, on Sundays) to the destinations that are not accessible to go with other kinds of public transportations vehicles.

- Knowing the exact time that takes to reach a destination.
- Do not bother with many people who travel with other kinds of public transportations vehicles.
- Going to some specific destinations that are not accessible to go with other kinds of public transportations vehicles.

Green-Mile Vision

Framework & Requirements	Demand, Supply & Infrastructure	Financing	Enviroment, Energy & Space
Switzerland takes an international leading position in the application of mobility innovation	Mobility demand is managed in a way that existing infrastructure is used to it's limits before further extensions or construction	Available public funds are used to finance mobility offer and infrastructure cost-efficiently	Reduce the pollution of environment caused by the effects of mobility
Cooperation between the various levels of government is strenghtened [communal - cantonal - federal]	Overall transport system is safe, reliable, highly available and easily accessible	Users of mobility increasingly pay for the internal and external costs they cause	Transport infrastructures are implemented in a way that conserves space and soil, integrate well into the landscape and settlement areas and their separation effect is reduced
International Integration of Swiss transport system is optimized	Users are free to choose which mobility options they use and combine		The energy efficiency of transportation has increased significantly
A defined basic service ensures adequate accessibility in all regions and for all population groups			National transport works largely CO2-neutral and if possible without fossil energies
			The desired polycentric settlement development is consistently promoted by the overall transportation system