




Decarbonisation of the aerial transportation, Some ideas

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Swiss Confederation

Swiss Federal Office of Energy SFOE

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NRP

Energy Turnaround
National Research Programme

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NRP

Managing Energy Consumption
National Research Programme



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Swiss Confederation

Commission for Technology and Innovation CTI

State of the art

Solar Impulse



Evolaris, a swiss initiative

- +/- conventional technologies



X57 from NASA

- Ultra lightweight, based on a Tecnam P2006T:
- 1 person
- 400kg batteries
- 1 hour flight
- Planned first flight in 2017 ?



The future: a look in the cristal ball

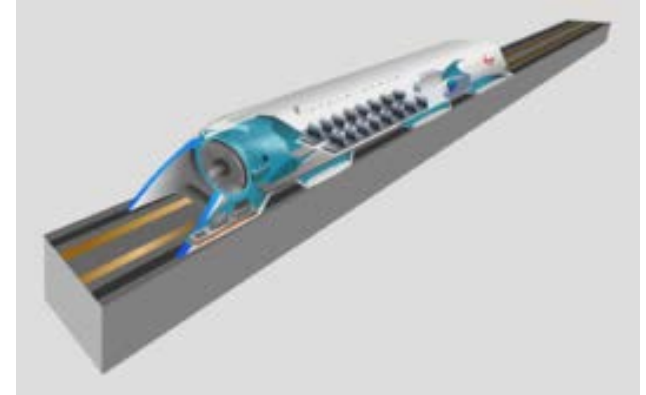
«Conventional concepts» will only be successful, if the power to weight ratio of the battery is improved by factors.

A game changing concept is needed !

Are there ideas for such a radical change???

How about Hyperloop ?

- Pod with 30 – 50 passenger in a vacuum tube with a diameter of $\sim 2\text{m}$ and a vacuum of ~ 0.01 bar,
- Extend the maximal «train» velocity from 500 to 1000km/h,
- Probably passiv magnetic leviation system,
- Linear E-moter as power unit,
- Human factor: as in a elevator,
- Security aspects
- Economics



Probability of success ?

The more different or futuristic a concept is, the more difficult it is to assess the probability of success.

But: Do not underestimate the technological revolutions, which we experienced in the past.