SBB CFF FFS

Energy Storage & Distribution

Challenge: Connection of all Energy storage Units in the SBB Network

Goal:
Creation of the largest «Swarm Storage» in Switzerland or even Europe – enable "multiple benefits"

Description:
with the electrification of mobility (today Swiss trains & light rails are close to fully electrified, busses, cars, drones and micro mobility are heading that way too) the demand of electricity will increase even more than today. Thus, SBB will become the single largest holder (owner) of energy storage units (e.g. batteries) in Switzerland. SBB (and Switzerland) want to fully produce and use non-fossil energy (wind, water, solar…). Energy efficiency, availability, distribution and smart allocation will become key.
Not only for use, but also for trading. Therefore, we want to connect all energy storage units in the SBB Network in order to create the largest «Swarm Storage» in Switzerland or even Europe and using them as efficient as possible e.g. in terms of maintenance and other applications.

Hurdles (that we see today):

- IT-Security (e.g. building a structure that manages the application via priorities.
- Algorithm / intelligence: Hence e.g. a blackout prior to the fulfillment of a transport service or a low price CHF /kWh has a lower priority than a delivery to a customer.
- (economic) Utilization / Connection / Integration
- Prioritization of demands
- Definition of Ports / Interfaces
- Integration of all requirements e.g. requirement of users, vehicles, energy management, trading etc.)
- Financial model / business model (who is owner and will usage/cycles be billed)