



Power Swap Teaser

2021

Background

The world today is marked by a strong trend in electrification, but the electric mobility market is still at an early stage of development, reaching only 1,1% of the total fleet in Sweden (BEVs), in 2020 Q4. Electric vehicles have significant obstacles to overcome; their expansion is inhibited by high purchase prices, unreasonably long charging times, range anxiety and lack of adequate "refuelling" infrastructure, while setting high demands on the electric grids. The electric mobility market has a long way to go before a full-scale deployment can be adopted.

A new disruptive solution is needed!

Our mission is to revolutionize the way we use and charge electric vehicles (EVs). Instead of connecting a charging cord, Power Swap automatically exchanges discharged batteries with fully charged ones in three minutes - less time than it takes to refuel a regular petrol or diesel vehicle. With Power Swap, time-consuming charging and range anxiety is eliminated, leveraging the EV market potential beyond early adopters.



Our concept is based on compact, autonomous swap units which swap the batteries of electric vehicles in complete drive-thru fashion. Our revolutionary system can be established at existing fuel stations and parking lots, eliminating the need for installing thousands of charging poles. The actual charging is made in a battery storage where the battery is charged under harmonious conditions - minimizing stress on the battery as well as on the grid.

Unique Selling Points

- The battery is swapped in **3 minutes** - faster than fuelling an ICE car
- The vehicle is **not blocked from usage** during charging
- The swap is made in automatic **drive-thru** fashion
- The cost per 10 km for the end users is only **1,5 SEK**
- EVs can be sold without the batteries, which are leased instead - **reducing the price** with up to 30 percent and ensuring access to the latest battery technology
- **Minimal stress** on the grid, and on the batteries, as more time can be dedicated for charging in the storage
- The battery storage can be used for **renewable energy storage**
- The storage can provide **grid balancing** services (V2G) and peak shaving
- An **infrastructure** can be established faster and at 1/10 of the cost compared to installing the corresponding network of charging poles

How it works

Drive to an energy station where there is a Power Swap unit and follow these simple steps.

Step 1

Slowly approach the swap unit and stop when you see a red light. The machine establishes optical contact with the car's battery hatch and starts to position itself for replacement.

Step 2

Open the Power Swap app and initiate the swap procedure. The procedure can be followed from the app.

Step 3

The battery hatch is opened and the discharged battery is extracted, before being sent to the battery storage for charging. A new, fully charged, battery is transported to the swap unit, which then feeds it into the car.

Step 4

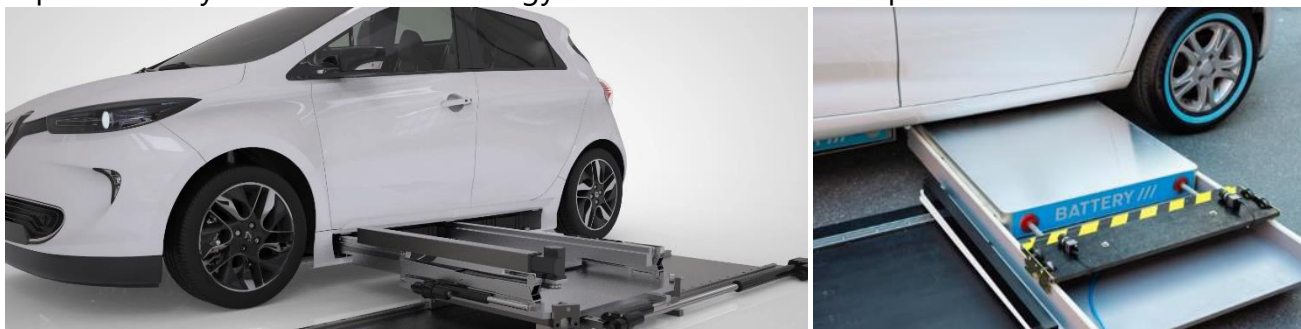
The hatch closes, and once the light turns green you are free to leave. A summary of the swap is presented in the app and a receipt is sent to the associated email address.

A unique business opportunity

Power Swap offers unique business opportunities for multiple stakeholders in the EV value-chain. By eliminating the remaining obstacles related to EV charging, Power Swap will facilitate the sales growth and enable a faster transition to a climate neutral transport infrastructure. This will create new exciting business models for OEMs, oil companies, energy companies, leasing companies and fleet operators.

Supported by the Swedish Energy Agency and the EU Commission

Power Swap's development is supported by governments and agencies. Our unique technology is protected by an extensive IP strategy with four international patent series.





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