 Flumen

One Line Pitch: Flumen is a smart charging solution focusing on enterprise fleets to significantly increase vehicle availability.

Customer Problem/Solution: As more enterprises adopt electric cars in their fleets, the current, manual charging process becomes a bottleneck of efficiency. Since the capacity of the electricity network of office parking lots/garages is limited, there are always fewer charging stations than cars. **This brings queues, low vehicle availability, which leads to bad ROI for electric car fleets.**

Flumen automates the charging process, to **ensure each vehicle will be charged in time**. It replaces human control with machine powered automatic control. Employees plug in their cars, then leave the scheduling and charging management to Flumen's back office system. Flumen collects information on routes coming from enterprise systems (Fleet Mgmt System, Route Mgmt System, Outlook, Energy Mgmt System, etc.) and the Flumen mobile app (charging status communication).

Flumen's AI powered algorithms **calculate the most optimal schedule** using the information, pre-set rules, and the selected charging optimization strategy (quickest, most economic, or green). Flumen considers arrival/departure time, route length, travel conditions (road, weather), user's driving habits, priority, car specifications, car input limits, charger output limits, local power capacity changes, electricity price changes, etc. Flumen also **defends the building's electricity network from overcurrent**, and tries to **shift the peak load intervals**.

Then, Flumen **automatically controls the charging stations**' power output to perform the pre-calculated schedule. At each change (e.g. new reservation, hardware failure) the system re-calculates and may change the schedule, and communicates it to those whose charging sesssion is affected by the change.

Enterprises with 20+ electric cars can reach much better electric fleet ROI with Flumen. It can **decrease charging energy cost by 10-30%**, and **increase car availability by 50-60%.**

We believe that in the next years, **scheduled charging will be indispensable for enterprise fleets**, because the current manuality in charging process causes bad vehicle availability, and nonoptimal, expensive energy usage.

Management: Co-founders Erik Arokszallasi, and Marton Ven have 21 years of experience in corporate IT development. They have been working together since 1996 as founders/leaders of Erba 96 Ltd., which developed core back office systems for SuperShop, NUSZ (National Toll Payment Services), Coop Hungary, Magyar Posta (Hungarian Post).

Target Market: According to market statistics, the number of electric vehicles in Europe is around 1 million, but growing rapidly, 50% each year. The highest yearly growth (200-300%) is in North-European countries (Norway, Sweden, Denmark) as well as the Netherlands, Germany and Belgium. Medium and large companies in these countires with 15+ elecric vehicles are our main target market.

Sales/Marketing Strategy: We plan to sell mostly through sales partners. Sales partners could be any company which has interests in selling electric cars or related equipment for enterprises. Potential partners are: fleet operators, car leasing companies, charging station manufacturers, car manufacturers, eMobility consultants, energy providers, IT services companies.

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Business Model: Flumen is a cloud based Saas, available for monthly fee. The implementation takes 5-6 days. It can control 90% of the charging stations on the European market without custom interfacing, using OCPP protocol.

Competitors: There is no direct competition, yet, which provides automatic, scheduled charging for enterprise fleets. There are many solutions which provides charging infrastructure without scheduling, but since Flumeen can be built on top of the existing charging infrastructure, we don't consider them as competition. The only indirect competitors are public charging networks, which provide special contracts to enterprises (like fuel cards), but charging fleet cars on the road for hours make a terrible ROI, this way we have tremendous USP compared to that.

Competitive Advantage: There is no automated, scheduling based load balancing system on the market, yet.

Traction: Pilot project in Hungary for Magyar Telekom (subsidiary of Deutsche Telekom) started in December 2016 in cooperation with T-Systems. We validated Flumen's solution with representatives of the Austrian Post, E.ON, Siemens, BMW, T-Systems, several fleet operators, charging station manufacturers, eMobility consultants, technical university professors (Michael Heiss, Vicente Gavara Padilla), and they agreed that charging power bottlenecks will be one of the most stressing problem for corporate electric car fleets in the next several years. This problem can only be solved by smart scheduling, which is the core function of Flumen.

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