

## Startup Pottar: Boosting 'ease-of-charging' infra for electric vehicle users

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**Pune:** What is the biggest concern while purchasing an electric vehicle (EV), be it two, three or four-wheeler? It probably would be the compatibility of chargers and availability of charging points on roads for daily commute within the city or even on highways and expressways. One positive development in this regard was the approval granted recently by the Bureau of Indian Standards (BIS) for the indigenously developed AC and DC combined charging connector standard for light electric vehicles (LEVs) like scooters, bikes, and rickshaws.

With cumulative sales of EVs across India breaching the mark of 30 lakh units last month, EV manufacturers and other government as well as industry stakeholders are working towards a solution to this standardisation and interoperability issues in the EV industry. Amidst these developments, a Pune-based startup Rovers Energy, founded in 2021 by Mukul Pottar and Chinmay Gore, is offering "ease-of-charging" as a solution to EV users through their charging infrastructure aggregator platform Swiftcharge.

### In the beginning...

It all began when Chinmay, a civil engineer hailing from Sangli district, decided to venture into the automotive energy and cleantech sector. In his first startup Yogtech Industries (YI), recognised by the department for promotion of industry and internal trade (DPIIT), Chinmay was working on lithium-ion (Li-ion) batteries and consolidation of chassis and body panel design of two-wheelers.

"Along with vehicle design, people were also interested in energy storage solutions, especially solar options. While looking for such energy storage solution provider companies, I happened to meet Mukul from Pune who was also running his own startup. After initial discussions, we found that we could team up and Rovers Energy acquired YI," said Chinmay.

Mukul was also simultaneously looking for emerging business prospects in the EV industry. He was engaging with some emerging EV charging players within India as well as global firms, but discussions did not bear fruit due to the lockdown post-Covid pandemic. With a dream of launching an electric two-wheeler, Mukul tried to garner resources and talent, but in vain. He recalls, "I began with sourcing software and hardware related to charging infrastructure and got some work orders from a few companies initially. While working with B2B clients, I realised much early that charging infrastructure business is not much helpful for new entrepreneurs because the set-up cost is huge and revenue generation as compared to petroleum business is less."

### Connectors

Mukul found that the connector guns used for EV chargers are being imported even if they are relatively easy to manufacture. With Chinmay's help, Mukul identified the components required to locally manufacture these connector guns and the duo came up with a few designs.

"Locally manufacturing connector guns proved to be a turning point as we could beat any competitor on the price point. Connectors imported from China would cost around ₹5,000, the European counterparts were as expensive as ₹19,000. We got requisite testing done for our connectors and started providing the units to companies. We created a space for us as service provider for charging infrastructure development in the EV industry. As we received more work orders, our confidence boosted and the market was also evolving simultaneously," said Mukul.

### Swiftcharge

Along with developing its own CMS software, Rovers identified three companies that would manufacture their products on contractual basis. The firm got the trademark and began branding products under Swiftcharge.

"Since we were dealing with charge point stations and operators, we wanted to increase the number of locations where we could provide services. Another challenge was related to the discoms' capability to provide uninterrupted power supply. We identified several locations on the Pune-Bangalore highway and started working on creating the charging infrastructure. However, soon we realised that the business model in EV charging, and that too in B2B space, has its limitations. Unless we increase the end-user base, these challenges and limitations would not allow us to scale up and turn profitable. By the end of 2022, we came up with a direct to customer business model and decided to pivot. We had the technical know-how on both hardware and software sides, which helped us bring down the charger cost by at least 30 per cent," Mukul said.

### Subscription-based financing

To increase their user base, Mukul and Chinmay decided to focus on customers who are buying new electric vehicles. The entrepreneur-duo is pushing their charging infrastructure product through these new EV owners.

Mukul said, "The EV market in India is very price sensitive. Cost of any electric two-wheeler along with charger would go up to ₹1.75 lakh, which is unaffordable for many buyers. We offered our charger for 'free' along with any electric two-wheeler. We purchased these vehicles directly from the OEM (original equipment manufacturer) or dealers with a commission arrangement in place. Our offer was if the buyer goes for our charger and the vehicle, they could get it at 50 per cent of the consolidated price and the remaining 50 per cent amount would be recovered on 'monthly subscription' basis. This helped us break the 'price point barrier' with new customers and without much marketing we started getting good response."

"Potential buyers held back their decision of purchasing electric vehicles due to lack of charging infrastructure and high cost of chargers. On the other hand, new charger installations slowed down due to lesser electric vehicles plying on road. Public utility charge-point operators also faced the same issue with incompatible vehicles and chargers. We have been successful in breaking this circle. We are continuing with the B2B sales, but our focus is on the B2C segment," he claimed.

### Aggregator platform

Starting with radio frequency identification (RFID)-card based charger identification system, Rovers Energy has introduced a mobile app-based aggregator platform to connect end-users to different charging networks, insurance players, financial institutions, vehicle servicing companies and others. The contract manufacturers for hardware act as last mile installation partners. At present, Swiftcharge is deployed majorly in residential charging segment and for two-wheelers. Mukul cites the need of sensitising owners of electric two-wheelers about using EV chargers, as the reason behind this serviceable market as of now.

"Swiftcharge users can use the app for on-the-go charging of two, three, and four-wheelers. They can plan their journey from one location to another with easily mapped 'charging hubs' enroute. We are integrating other networks and charge point operators with our system. Also, we will be providing features like subscription, insurance, extended warranty on the platform on a single-click. The app is Android and iOS compatible. Our larger goal is to bring out 'ease-of-charging' for end users by increasing residential charging infrastructure and our app-based activities," Mukul said.

### Comprehensive solution

Rovers Energy is a 15-member team, including the co-founders. It has five facilities, including two offices in Pune, a 15,000 square feet design centre at Kapurhol, and 5,100 square feet battery and charger testing facility at Miraj MIDC, Sangli. Speaking on market expansion, Mukul said, "The requirement of AC chargers in India and China is huge because we do not have the power infrastructure like the US. We have about two-kilowatt load at our houses, while car charging requires 3.5kW load and such big capacity chargers are expensive. It is also important to rely on AC charging from the battery health perspective. About 90 per cent consumption happens through AC chargers at residential zones."

"In countries like the US, there is one charger installation per 20 vehicles, whereas in India it 300. If EV adoption must increase, then the ratio must improve and hence we are pushing residential charging infrastructure business as a comprehensive mobility solution. We could have kept higher margins while offering the subscription-based financing model, however, we did not go for it as we want to increase our user base for now. By the end of the current financial year, we expect to close 10,000 orders with most of them from Maharashtra, Karnataka, Goa, and Gujarat," Mukul said.

"Monthly subscription amount paid by the user is like an EMI. For users, who cannot make 50 per cent down payment, we have tie-ups for other financing options too. Even if anyone takes a loan directly from bank, considering the applicable interest the EMI would go as high as ₹1,500 to ₹2,000, and hence our subscription model works better. The subscription model gives us the stickiness from the user, and we maintain a healthy cash-flow while recovering our investment. We are aiming to achieve 5x growth in next three years with 10 lakh active users by 2027. An active user means any customer who charges at least one unit per day," he said.

### Future mobility

After creating the charging infrastructure, what next? Mukul said, "It would be an urban utility vehicle design and manufacturing." He claims that they are in an advanced stage of discussion with a Russian company operating from the UAE and that the homologation for Europe market is done, while for India, it is under process.

"We see a future where electric vehicles are the norm, where charging infrastructure is ubiquitous, and where environmental impact is minimal. We are unveiling the concept in early 2024 and our vehicle will be powered by Lithium Titanate (LTO) batteries which are safer as compared to Li-Ion batteries and have better charging and discharging rates. Our preferred location for setting up a manufacturing unit is Maharashtra, Karnataka, or Gujarat. By the time we launch our vehicles, we aim to have our charging infrastructure in place, which would be our USP. We are planning to have charging hubs on 2,500 locations across India, mainly highways and expressways. These hubs will have access to multiple charging networks besides other facilities. We want to become the Zomato of electric mobility as a solution provider," Mukul said.