

AN ECO FRIENDLY VEHICLE FOR DOMESTIC MOBILITY

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ABSTRACT

This work aims to create a pollution free environment in an economic and effective way. Global warming which results in the rise of average temperature of the Earth's climatic system. It occurs when carbon dioxide and other air pollutants which are being collected in the atmosphere and its effects are being felt across the globe. Extreme heat waves have caused melting of glaciers and thousands of deaths around the world in recent years. However the population rate increases day to day and the need of locomotion increases equally, by introducing these vehicles one could move in and around at absolutely freely available renewable energy and could use it in factories, industries, institutions and can also be used by private people in estates, warehouse, zoo, colleges, airports, railway stations and in our day to day life in a good and easy way for all classes of people. Thereby it would be a multi utility vehicle on the whole. The depleting of fossil fuels creates renewable energy as the future need and companies have started their step towards hybrid vehicles. Electrical components are used to eradicate pollution factor and also to create a noise free atmosphere with the support of solar energy. This also supports the differently abled people who could travel and sell things for their basic needs in their day to day life. Aditi Tejomaya is a collection of several products which is in need for the society in the present and future.

Keywords: Aditi Tejomaya, Solar Power.

1.0 INTRODUCTION

Aditi Tejomaya means freely available energy with abundant source and it is purely renewable and obtained from natural sources. Here we are using solar energy as a source for our vehicles as we are depleting in our sources in the field of locomotion. As we are in a scenario where inventors are finding out driverless cars, we have come forward with this unique idea of developing this solar powered vehicle namely Aditi Tejomaya. This is the future and we have been doing researches in this field in the past years and have come forward with a prototype as we are planning for the working model in the following year. This being the future idea and to gain in depth knowledge we have attended several sessions and workshops and having an overall of six months hands on training experience and worked part time in few companies during the semester holidays and hereby coined and gained the confidence of making this practically possible. But yet to obtain a global level market we have to work more as technology is developing very day in fact every minute. Thus as if now we have three main innovations and looking forward for many more and as such we can create a global level market for our product and we work towards success and would provide a world class aesthetic product which would be one of the best products in the upcoming years.

Aditi Tejomaya was put forward in our very first year. We have done several researches on how, where, when, who and what could make a global level market, as our first innovation is SK-796 which is India's first low weight multitasking vehicle and hereby felt we have to make one more milestone creating a benchmark in our engineering course. Thereby we took up several analysis on where and how to manufacture a product which could create the global level market and also it should be there in the market for decades. Thus one of the primary needs for every living being is locomotion on the aspect of a mechanical engineer and keeping that on mind and stepping a head forward we felt some changes could be made in the mode of fuel. And finally we felt that solar would be the right choice among so many alternate fuels. But the challenge was that how are we going to beat the market with our product just as solar powered vehicle. So this inculcated the spirit of making the new innovations which made us stand here and now we are here to present three of our major innovations that could rock the world and make us the monopoly in these fields of innovation and could create a benchmark in our society.

Design and fabricated a multitasking vehicle which could perform several functions and had fabricated it in such a way that it is still India's first low weight multitasking vehicle which was awarded as the best innovation of the year, but soon after we had no recognition as what we had expected and that day we decided to manufacture a set of vehicles which should turn the entire world market and should help the society of several classes of people and also concentrate on the few key points such as what is the current and future needs of people, how could we make people accept our innovations, where is the scope of our product, why is the need and cause of a new product and we raised up with so many quires and took nearly three years for us to find solution and found many new innovations in the field of electrical vehicles and solar power stations and are still finding new ideas on the battery technology. We are speaking to several companies and experts for have done and are doing researches in this field and thereby thought that this is the right time to take up the initiative if fabricating these vehicles.

2.0 FABRICATIONPROCESS

Aditi Tejomaya is not only a work of a single vehicle but it is a range of vehicles which is indeed required for the present and future scenario has it is a big need in each of its sectors. Vehicles such as mono, dual, tri, four and multi wheeled vehicles which entirely work on the freely available solar renewable source of energy. As we are in the motto of the global market and also the need for such vehicles are increasing day by day. And as we are concern about all classes of people we have also designed a unique low cost hybrid vehicle for the differently abled people who could roam as well as market there our products thereby being a multi utility vehicle as a whole and similarly studying the need and ability of every sector and understanding the current scenario we have come up with seven different vehicles serving all classes of people such as men, women, children, differently abled and is very easily accessible and comparatively low cost and has several features making it having a global market and the scope of developing and marketing these product will be done easily and is the future and we have started early and could create a change in the entire market.

Aditi Tejomaya is a collection of seven different products. We have come forward for manufacturing three of our primary vehicles which are having the best market scope. As per the expertise we have to initially design and fabricate the solar power station as per the users requirements and available space.

Soon then it is the fabrication of the type of vehicle we require accordingly and we consider few factors such as weight, load capacity, mileage that is distance to be travelled and variation of speeds as per the customer needs and thereby the vehicle is fabricated and it is all according to the customer's needs and works as per the customer's satisfactions. Otherwise the motors, batteries and panels vary accordingly. And the other fabrication factors are taken into account as it plays a vital role in the factor of safety as we have considered the factors and thus all the steps of fabrication has been listed above and all are as per the required standards and aesthetic properties are to its level maximum.

3.0 VEHICLE FEATURES

1. It could carry load upto 140-145 kg,
2. Maximum speed upto 25-30 kmph,
3. Mileage upto 60-65 km,
4. Water bottle and laptop holders,
5. Mobile phone charging available,
6. Comfortable seats for pleasant drive,
7. Could climb slopes easily,
8. Having world class aesthetics,
9. Having the least transmission loss,
10. And now into the innovation of regaining the low battery cell.
11. Also some unique ideas has been planned accordingly.

4.0 SOLAR POWER STATION

Aditi Tejomaya is a work where we have several vehicles get its source of fuel from these solar power stations. We have designed and planned for a station where it could be used for multiple uses. It is a very little portion where the vehicles are to be charged and the huge remaining portion could be used in and as normal vehicle parking making the first solar parking lots in every sector which creates a unique aerial view and this solar power station will have the capacity of charging the vehicles and also store energy which could be used for common area lightings and other utilities such water pumping for common utility and watering the gardens. Thus investing on this serves us in so many situations and thereby making this solar power station as a multiutility station and one time investment. And also this has been designed as per the international standards and has the best aesthetics where there are separate slots for recharging vehicles and the best part is all wiring are hidden and opaque and have toll booth type of setups where one could easily and comfortably recharge the vehicle. On the other hand it all depends on the type of utility and the need of customer. We have come forward with a new charge controller designed and calculated for the first case where the energy obtained from the solar

panel it directly sent to this charge controller were it has several versions which charges the various vehicles of different grades and specifications. But suggestion would be the second case as it could serve many utilities whereas seeing on the product point of view the innovation plays a vital role as we have a new product and we would be the monopoly in the current market as well as in the future market. And some of the general concepts are all as we know, a solar power station is based on the conversion of sunlight into electricity, either directly using photovoltaic (PV), or indirectly using concentrated solar power (CSP). Concentrated solar power systems use lenses, mirrors, and tracking systems to focus a large area of sunlight into a small beam and this type is used majority in agricultural sectors. But only photovoltaic energy could be used here as only it could satisfy our needs and our required outcomes.

5.0 Conclusion

Generally vehicle of this kind could carry only 80 kg, however the present vehicle could carry 160 kg. Once fully charged it could be driven for 60 km. That is on an average it could be driven for two days or more dependently. Over the day it could be used by faculties and during night it could be driven by security people in a single charge. Comparatively it is cost effective without any compromise in quality of all including solar plant. It would have a good life time as we are going to build it with the best standards and finish. Comparatively it is easy to drive and park it in places which require less space only. It could be driven at any climatic conditions and would serve as a multi-tasking machine.

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