IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, December 2025
Impact Factor: 7.67

Solar Operated Electric Vehicle for Disabled People

[1]Gayathri J, [2]Venkatesh Naik, [3]Vinod Kumar B, [4]Yuvateja K, [5]S Veeresh
Assistant Professor, Electrical and Electronics Engineering[1]
Students, Electrical and Electronics Engineering[2-5]
Rao Bahadur Y. Mahabaleswarappa Engineering College, Ballari, India

Abstract: *In recent years, the transportation sector has shifted towards sustainable mobility to combat pollution and fossil fuel depletion. This paper presents the design and development of a Solar Operated Electric Vehicle specifically tailored for disabled people. The project aims to provide mobility independence to physically challenged individuals using a renewable energy source. The vehicle is a three-wheeled tricycle equipped with a Brushless DC (BLDC) motor, a solar panel, and a battery bank. It utilizes a 100W solar panel to charge two 12V batteries, which power a 250W hub motor, ensuring a clean, noise-free, and cost-effective mode of transport. The design focuses on ergonomics, stability, and ease of operation with hand-controlled mechanisms. Testing results demonstrate a range of approximately 40 km on a full charge with a top speed of 22 km/h, making it a viable solution for rural and urban mobility.*

Keywords: Solar Electric Vehicle, Disabled Mobility, BLDC Motor, Renewable Energy, Sustainable Transport

DOI: 10.48175/568