



## WHEEL CHAIR CUM SOLAR E-TRICYCLE

### What you will get to know!!!

- The challenges faced by individuals with disabilities regarding mobility and independence.
- The innovative solution of the "Wheelchair Cum Solar E-Tricycle" developed by Chitkara University's DICE.
- The sustainable approach of using repurposed materials and solar power for mobility solutions.
- The environmental benefits and practical features of the solar-powered tricycle, such as reduced waste and protective shelter for the rider.

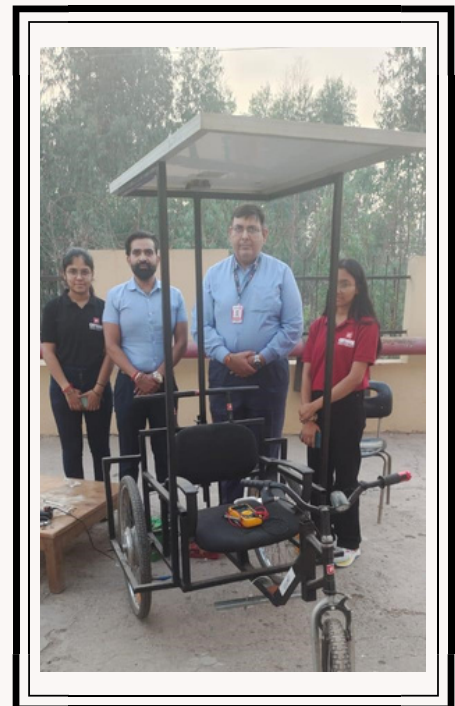
### About this Project

The "Wheelchair Cum Solar E-Tricycle," developed by the Department of Interdisciplinary Courses in Engineering (DICE) at Chitkara University, addresses the mobility challenges faced by individuals with disabilities. This innovative project repurposes scrap materials and harnesses solar power, offering a sustainable and eco-friendly alternative for wheelchair mobility. The solar-powered roof not only provides an environmentally friendly power source but also serves as a protective shelter for the rider. By reducing waste and utilizing renewable energy, the tricycle exemplifies the potential of sustainable transportation solutions for everyday use, aiming to enhance the independence and quality of life for people with disabilities.

## MORE DETAILS

People with disabilities who use wheelchairs face the primary challenge of limited mobility and increased reliance on others. Their independence in movement can be progressively more difficult. Traditional motorized wheelchairs require a significant amount of physical exertion, especially when navigating stairs or covering long distances. The Department of Interdisciplinary Courses in Engineering (DICE) has developed the "Wheelchair Cum Solar E-Tricycle" using repurposed materials. This project highlights the substantial potential of sustainable transportation solutions for everyday use. By repurposing scrap materials and utilizing solar power, we are not only reducing waste but also offering an intelligent, eco-friendly alternative for wheelchair mobility. A standout feature of our tricycle is the integration of solar power on the roof, which serves as both an environmentally friendly power source and a protective shelter for the rider. As the world seeks to minimize emissions, carbon footprints, and reliance on non-renewable resources, the "Wheelchair Cum Solar E-Tricycle" presents an ideal solution for individuals with disabilities.

Solar Wheelchair Tricycle for disability persons :



## TECHNICAL DETAILS

COMPONENT	TYPE
MOTOR	Brushless DC (BLDC) 24 Volt/250 Watt, Hub Type
CONTROLLER	24 Volt/250 Watt
SOLAR PANEL	Power- 100 Watt Operating Current: 5.89 A
BATTERIES	24 Volt LiPo Battery
OPERATIONS	Forward and Reverse Drive
OTHER FEATURES	Heart Rate Monitoring, Fan, Roof Light, Charger, etc

MATERIAL/COMPONENT	SPECIFICATION
Hub Motor	BLDC (24 Volt/250 Watt) Three Phase
Controller	24 Volt three phase (Forward Reverse)
Solar Panel	OL Output 20 Volt
Batteries	12 Volt 30 mAh Lead Acid
Other Components	Arduino, Heart rate Sensor, DHT 22, etc

## CONCLUSION

The solar-powered wheelchair and E-Tricycle offer a revolutionary solution that supports SDG 7, guaranteeing access to affordable, reliable, sustainable, and modern energy for everyone. By meeting the mobility requirements of people with disabilities and utilizing renewable energy sources, this invention represents inclusivity and environmental sustainability. Its widespread use could greatly aid in reaching SDG 7 goals at the national and individual levels, promoting independence, economic opportunities, and environmental responsibility. Embracing these types of innovations is essential for advancing the worldwide goal of sustainable development and securing a fairer and greener future for everyone.