

# CSIR-CMERI Developed Graphene Based Ultra Capacitor



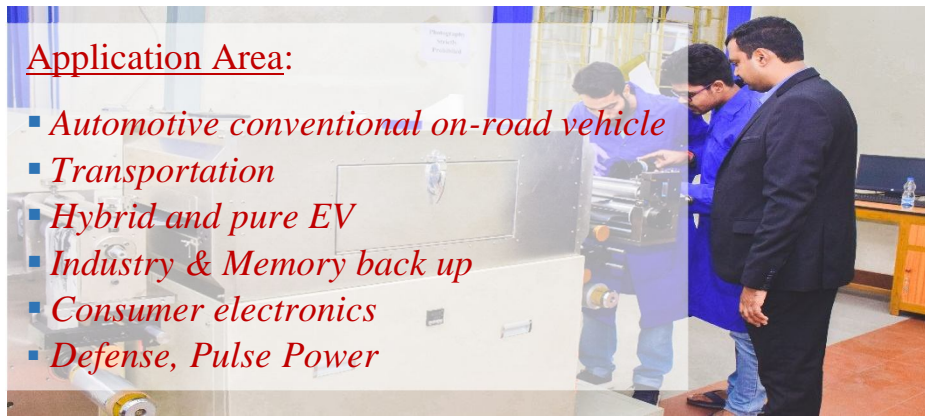
CSIR-CMERI IS DEVELOPING GRAPHENE ULTRA CAPACITOR/LI-ION BATTERY (LIB) HYBRID ENERGY STORAGE SYSTEM (HESS) FOR UNMANNED GROUND VEHICLE (UGV). IT CAN USED AS EMERGENCY SOURCE OF POWER, DIFFERENT ELECTRONIC GADGETS, PUBLIC TRANSPORT SYSTEM, AND DEFENSE



## Introduction

Ultra Capacitor is a fast charging energy storage device which can be charged within 2-3 second and can deliver a burst power on demand.

Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur, have developed a technique for scaled-up production of graphene-based super capacitor. The developed Graphene having large surface area material, which is now being used to fabricate ultra-capacitor cell.



### Application Area:

- *Automotive conventional on-road vehicle*
- *Transportation*
- *Hybrid and pure EV*
- *Industry & Memory back up*
- *Consumer electronics*
- *Defense, Pulse Power*



### Features

- Targeted cell capacitance and energy density are over 200-250 F and 30-40 W h/kg
- Light weight
- Low cost than similar capacity available in the market
- High reliability (-40<sup>0</sup> to 60<sup>0</sup> centigrade)
- Unlimited charging-recharging cycle

