



Department of Electronics Engineering
Walchand College of Engineering, Sangli

(*Government-Aided Autonomous Institute*)

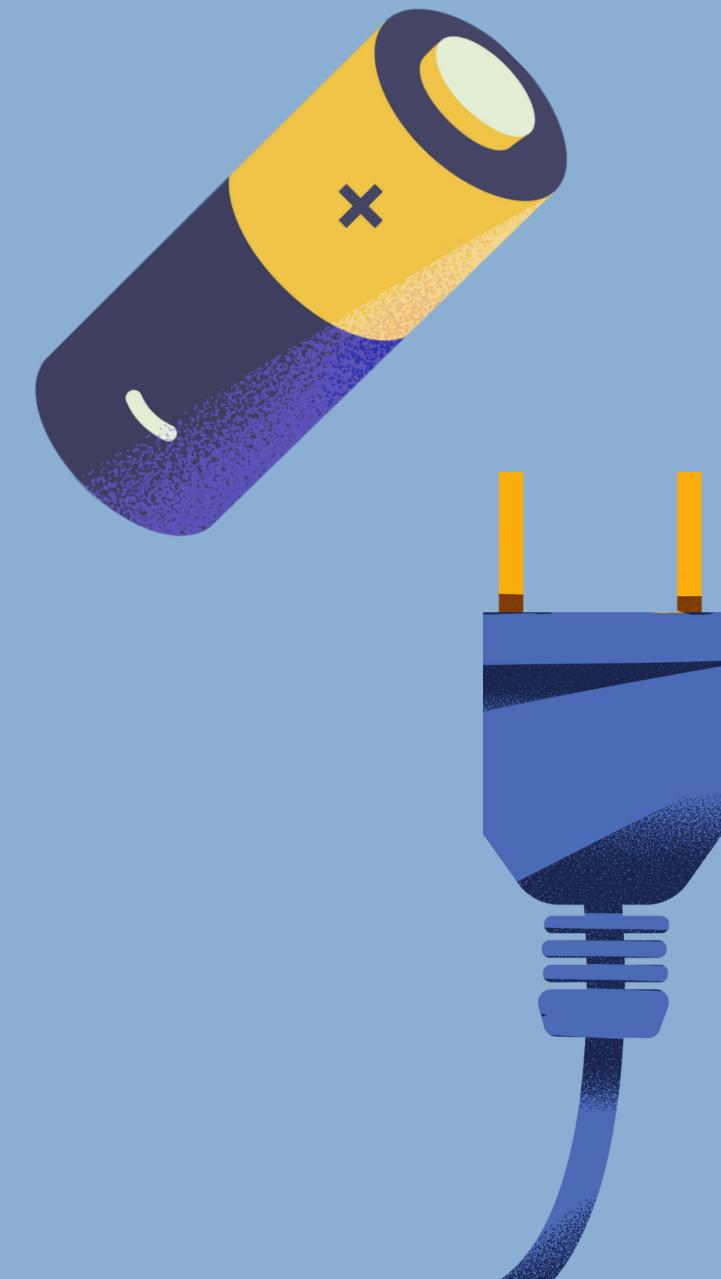
Mini Project A.Y. 2023-2024

**Dynamic Wireless Charging System
for Electric Vehicles**

Batch EN2 Group No.2

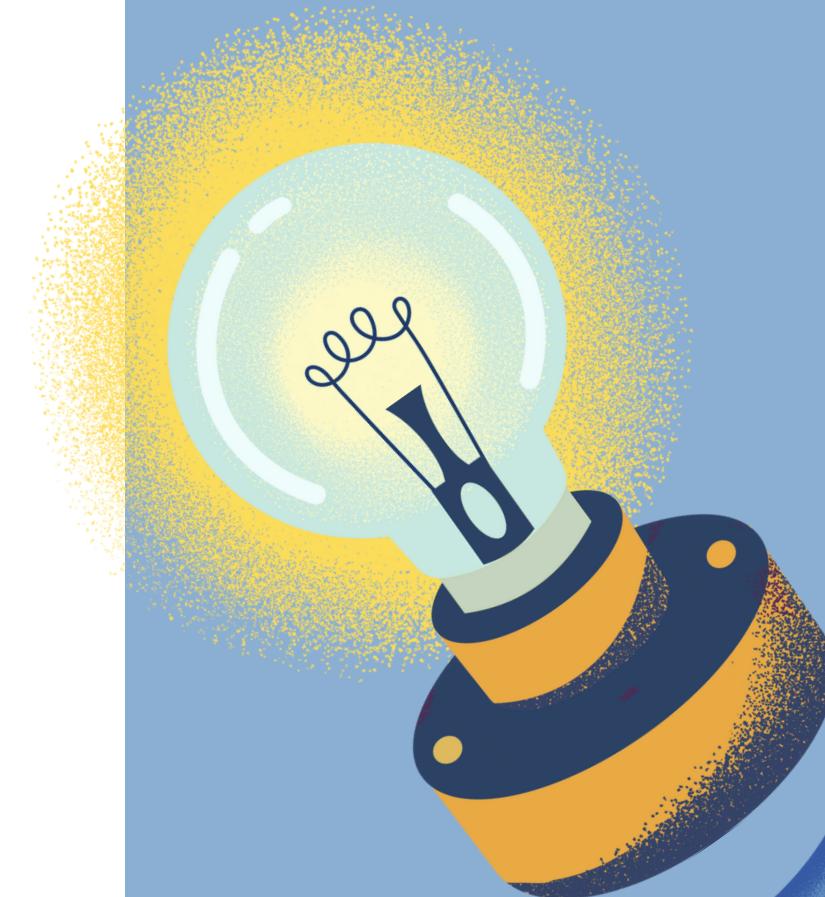
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under Guidance of
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Contents

- INTRODUCTION
- OBJECTIVE
- PLAN OF ACTION
- COMPONENTS
- BLOCK DIAGRAM
- APPLICATION
- CONCLUSION
- REFERENCES



Introduction

- Introduction to Electric Vehicles
- Challenges of Traditional Charging Methods
- Dynamic Wireless Charging
- Market Demand and Future Outlook
- Benefits of Dynamic Wireless Charging



OBJECTIVES

What to achieve from this ?

- Combine Ultrasonic sensors and 16x2 LCD with arduino for charging initiation and monitoring.

- Create a prototype to wirelessly charge electric vehicles in motion on roadways.

- Implement a 16X2 LCD interface for easy interaction with the system.

A

B

C

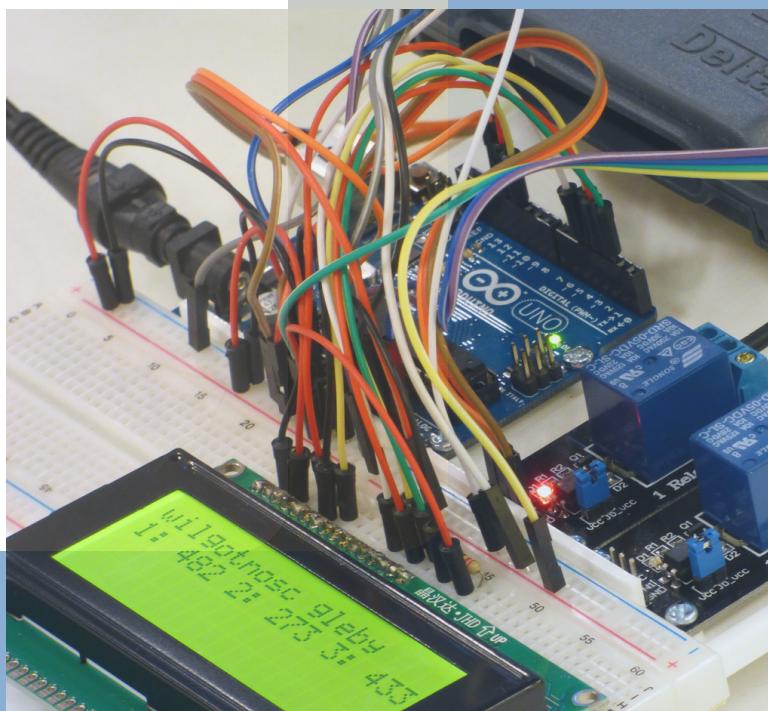
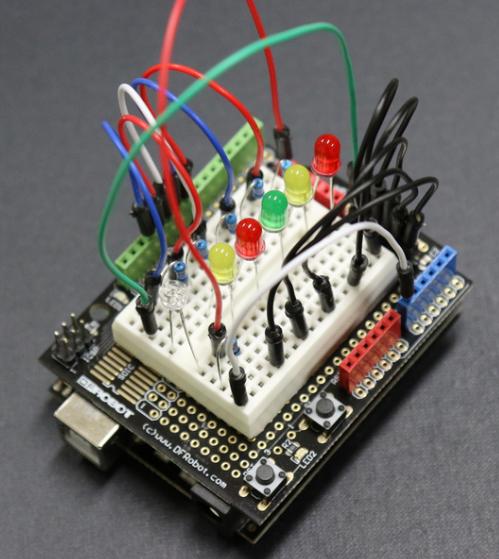
Plan of action-->

WEEK NO.	WORK TO BE COMPLETED	STATUS OF WORK
WEEK NO. 1	RESEARCH ON DIFFERENT PROBLEMS AND CASE STUDY	COMPLETED
WEEK NO. 2	SELECTION OF PROBLEM AND INITIATION FOR SOLVING IT	COMPLETED
WEEK NO. 3	COLLECTION OF INFORMATION	COMPLETED
WEEK NO. 4	PROJECT PROPOSAL AND VERIFICATION BY MENTOR	COMPLETED
WEEK NO. 5	MAKING ABSTRACT, SETTING TIME, GOAL AND STRATEGY	COMPLETED
WEEK NO. 6	REQUESTING FOR COMPONENTS BY LETTER AND COLLECTING IT	COMPLETED
WEEK NO 7	COMPONENTS TESTING AND VERIFICATION FOR USE	PENDING
WEEK NO. 8	CONNECTIONS, MOUNTING, SOLDERING AND SOFTWARE TESTING	PENDING
WEEK NO. 9	PROPER SYNCHRONIZED EXECUTION AND CONTROL MANAGEMENT	PENDING
WEEK NO. 10	PROJECT REPORT AND FINAL PRESENTAION AND EXECUTION	PENDING

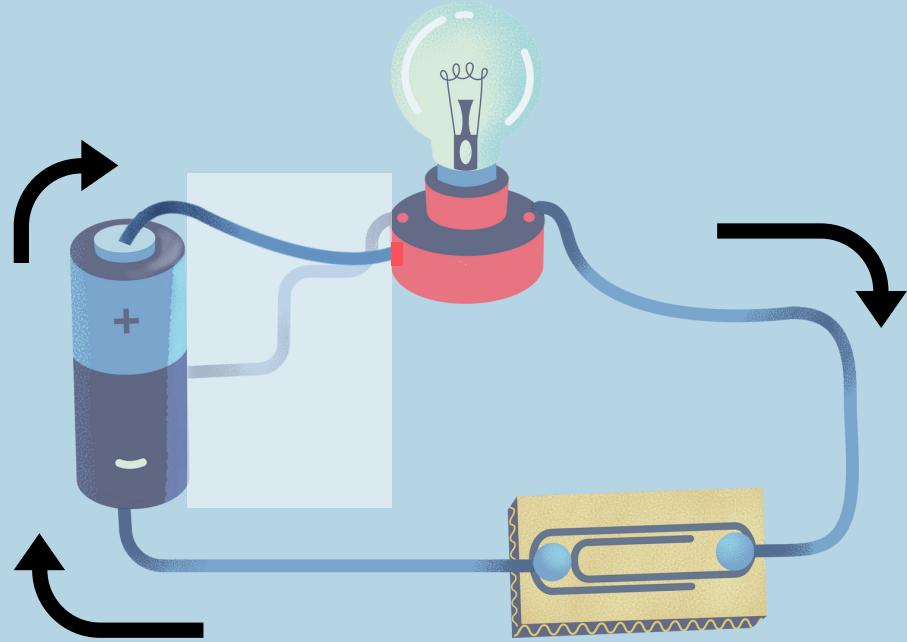
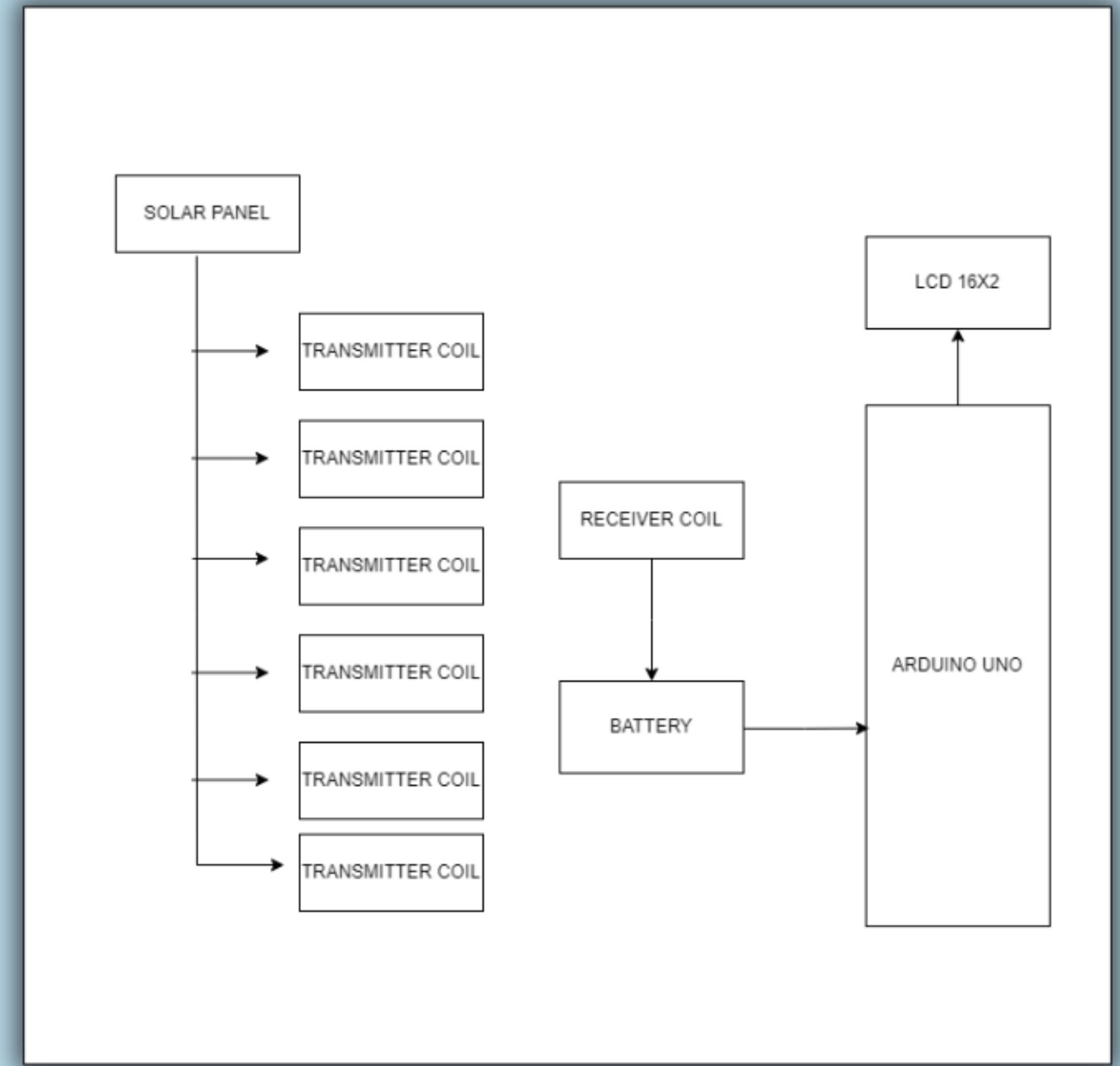
Components

- Arduino Uno (with Cable)
- 12V Transformer(step down)
- Enamelled Copperwire(0.4-0.6mm)
- Voltage sensor module 25V
- 12V power adapter
- Dual shaft BO motor with wheels
- Rechargeable Li-ion cell 3.7V

- 16X2 LCD
- Solar panel
- Transistor(2N2222A)
- Resister 27k
- battery 12V
- Led(red,green)
- Battery holder with wire 18650X2 (9V)
- Switch
- 4 channel relay
- Ultrasonic sensor

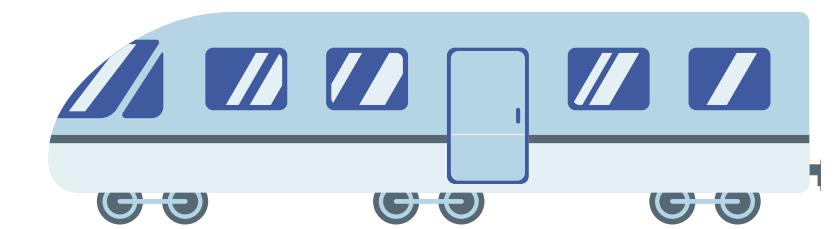


Block Diagram

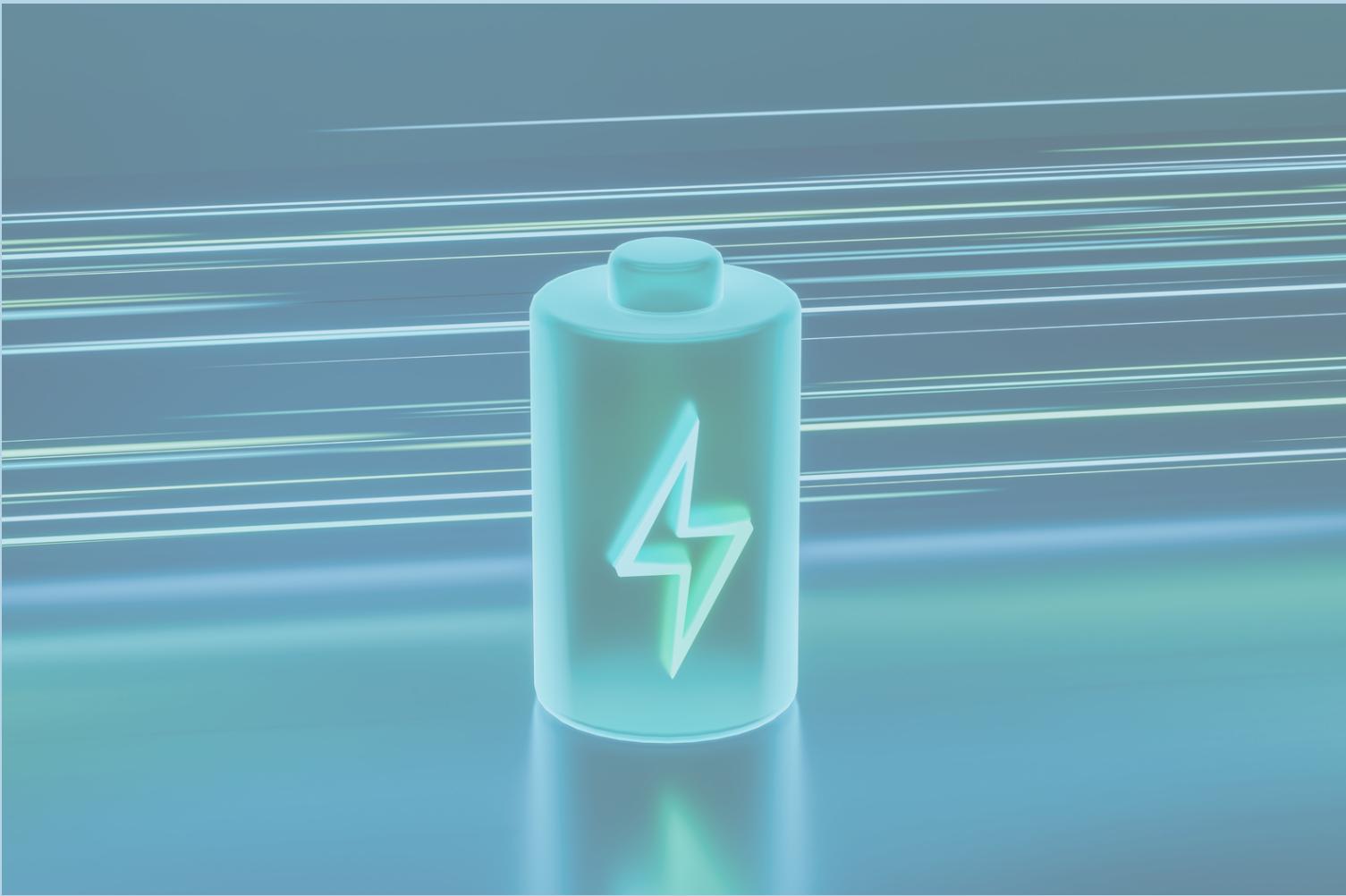


Applications

- Public Transportation Systems
- Fleet Management and Logistics
- Urban Mobility and Shared Mobility Services
- Electric Vehicle Taxis and Ride-Hailing Service
- Fleet Electrification in Industrial Settings
- Automated Guided Vehicles (AGVs) and Robotics



Conclusion



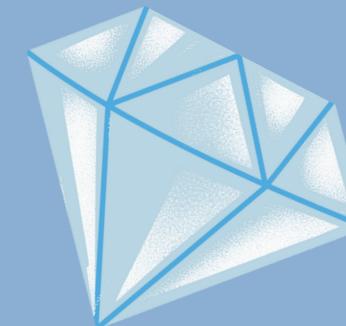
The implementation of the Dynamic Wireless Charging System for Electric Vehicles marks a crucial step towards the widespread adoption of electric vehicles in the transportation sector.



Furthermore, the integration of smart technologies such as Arduino control and sensor networks enhances the efficiency and safety of the charging process, ensuring optimal performance and reliability in real-world scenarios.



References



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- Rong, L., & He, X. "Dynamic wireless charging system design for electric vehicle application." *Energies*. 10.6 (2017): 806.
- Park, S., Kim, J., & Park, S. "Optimal design of a dynamic wireless charging system for electric vehicles considering power loss and coil size." *Energies*. 12.6 (2019): 1082.
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Thank You!!!

