

List and Data (Pictures & Costs) of Projects Required for Sustainability

Sr	Project	Year Bracket
1	Design and Fabrication of a Tree Plantation Drone (1610)	2016-2020
2	PLC Based Autonomous Multi-level Car Parking and Retrieving System (1618)	2016-2020
3	Smart Stick for Visually Impaired (1624)	2016-2020
4	Autonomous Vehicle for Surveillance and Combat (1627)	2016-2020
5	Solar Power Based Aesthetic Gardening (1701)	2017-2021
6	Autonomous and Portable Sun-tracking Solar Energy Harnessing System (1702)	2017-2021
7	Modeling and Simulation of Hybrid Armored Personal Carrier (Control System Design) (1710)	2017-2021
8	Modeling and Simulation of Hybrid Armored Personal Carrier (Electrical System Design) (1711)	2017-2021
9	Modeling and Simulation of Hybrid Armored Personal Carrier (Mechanical System Design) (1712)	2017-2021
10	Design and Fabrication of IOT based Smart Home (1713)	2017-2021
11	Smart Management of Energy & Home Automation (1723)	2017-2021
12	Bio-Hybrid Electric Car (1726)	2017-2021
13	Design and Fabrication of Hybrid Electric Bike/Scooter (1805)	2018-2022
14	Design of a Solar power DC Street lighting system with a communication system for creating a Wide Area data Network (1806)	2018-2022
15	Solar-powered air-conditioning system based on use of phase change materials and solar heating using free cooling concept (1808)	2018-2022
16	Design and Fabrication of an Artificial Heart Prototype (1813)	2018-2022
17	Bio Inspired Swimmer Robot for Marine Aquaculture Applications (1814)	2018-2022
18	Smart Farming using UGV (1819)	2018-2022
19	Home Energy Management System (1826)	2018-2022
20	Design and Development of Bio-Hybrid Pedal-Assisted Electric Vehicle (1902)	2019-2023 (On-going)
21	Design and Fabrication of an Electric-Powered Surveillance Drone (1905)	2019-2023 (On-going)
22	Fully Autonomous Mobile	2019-2023 (On-going)

	Vacuum Cleaner (1914)	
23	Portable Health Monitoring Device (1916)	2019-2023 (On-going)
24	Low Cost Fully Automatic Washing Machine (1915)	2019-2023 (On-going)
25	Solar Powered Automatic Grass Cutting Robot (1919)	2019-2023 (On-going)
26	Access Control and Utility Management System for Smart Homes (1923)	2019-2023 (On-going)
27	Plug-in Hybrid Electric Vehicle Conversion Kit for Suzuki Mehran (1922)	2019-2023 (On-going)
28	Design of a Low Cost Ventilator (In collaboration with BME Dept.) (1918)	2019-2023 (On-going)

1. Design and Fabrication of a Tree Plantation Drone (1610)

(2016-2020)



Cost: 74,000/- PKR

2. Autonomous Multi-level Car Parking and Retrieving System

(1618)

(2016-2020)



Cost: 81,200/- PKR

3. Smart Stick for Visually Impaired (1624)

(2016-2020)

Cost: Not Available

4. Semi-Autonomous Robot for Surveillance and Combat (1627)

(2016-2020)



Cost: 194,525/- PKR

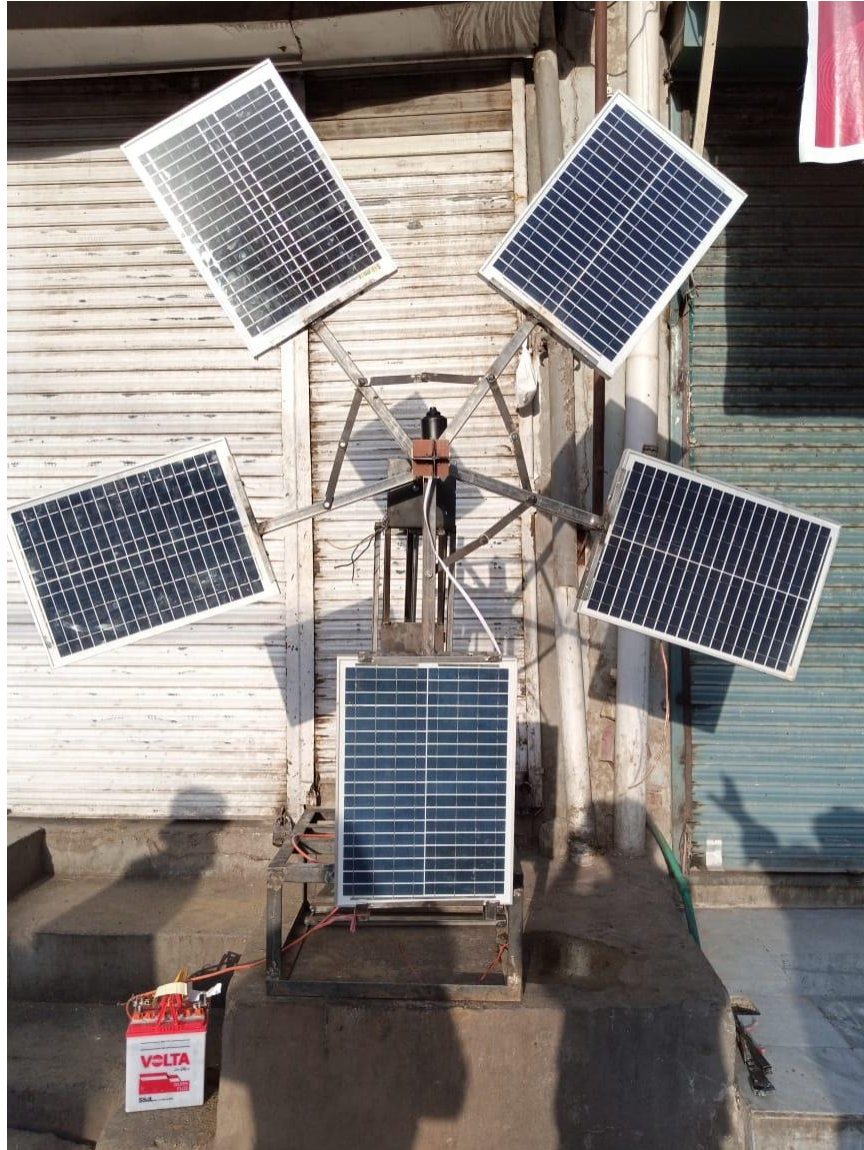
**5. Solar Power-Based Aesthetic Gardening System (1701)
(2017-2021)**



Cost: 82,100/- PKR

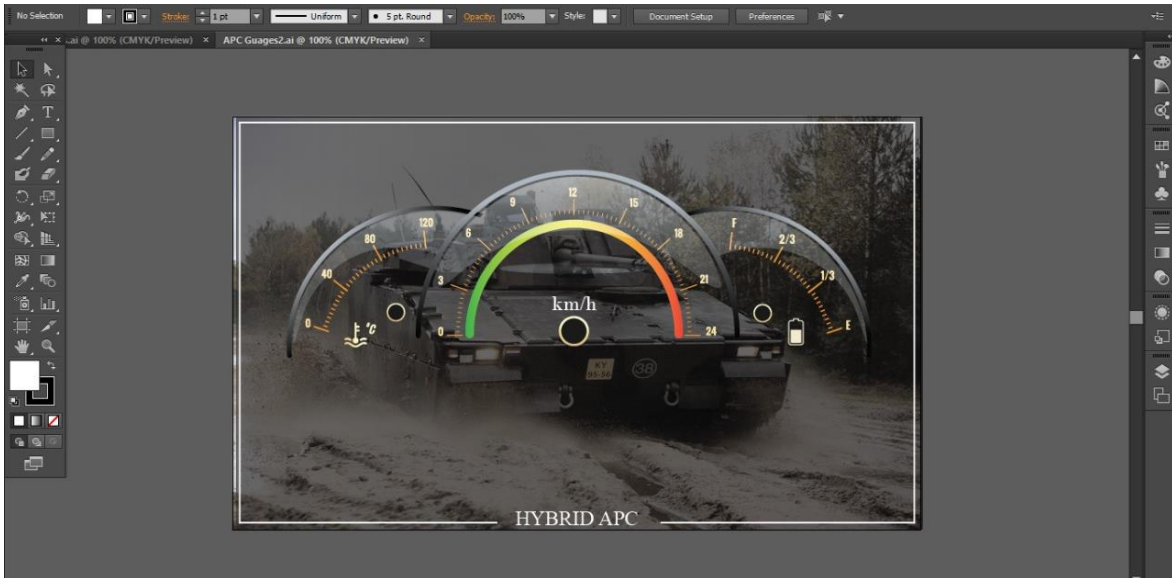
6. Autonomous and Portable Sun-Tracking Solar Energy Harnessing System (1702)

(2017-2021)



Cost: 100,000/- PKR

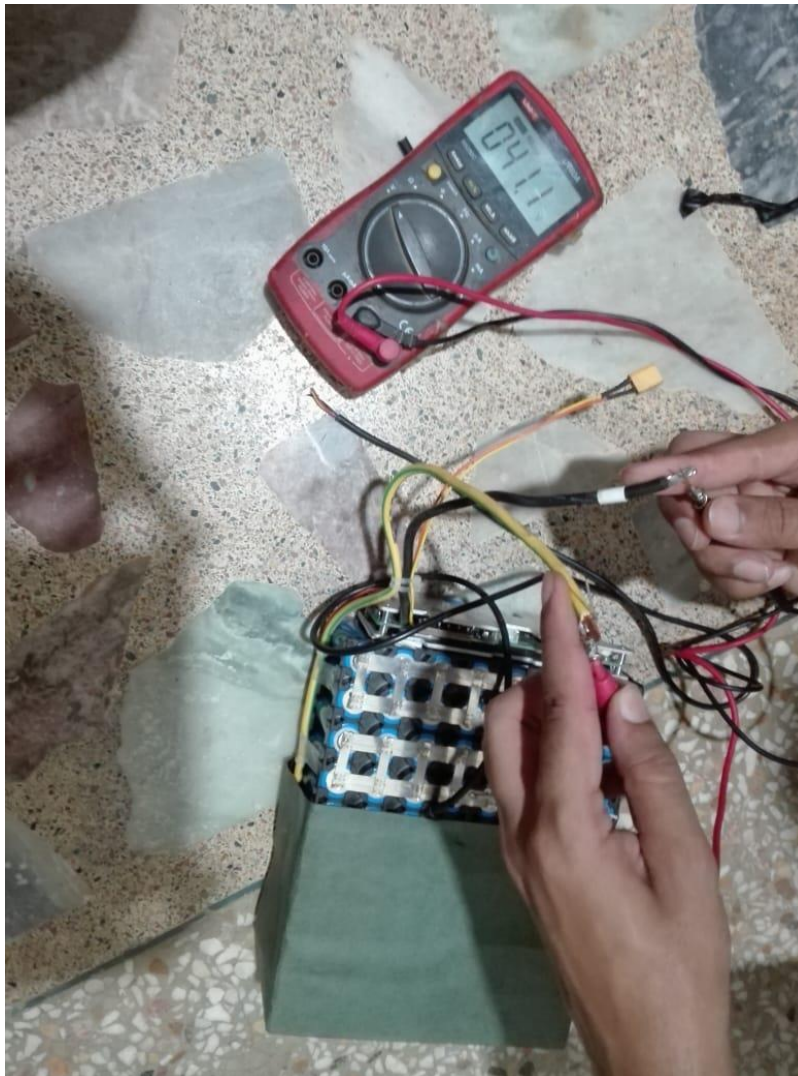
**7. Modeling and Simulation of Hybrid Armored Personal Carrier
(Control System Design) (1710)
(2017-2021)**



Cost: 54,969/- PKR

**8. Modeling and Simulation of Hybrid Armored Personal Carrier
(Electrical System Design) (1711)**

(2017-2021)



Cost: Not Available

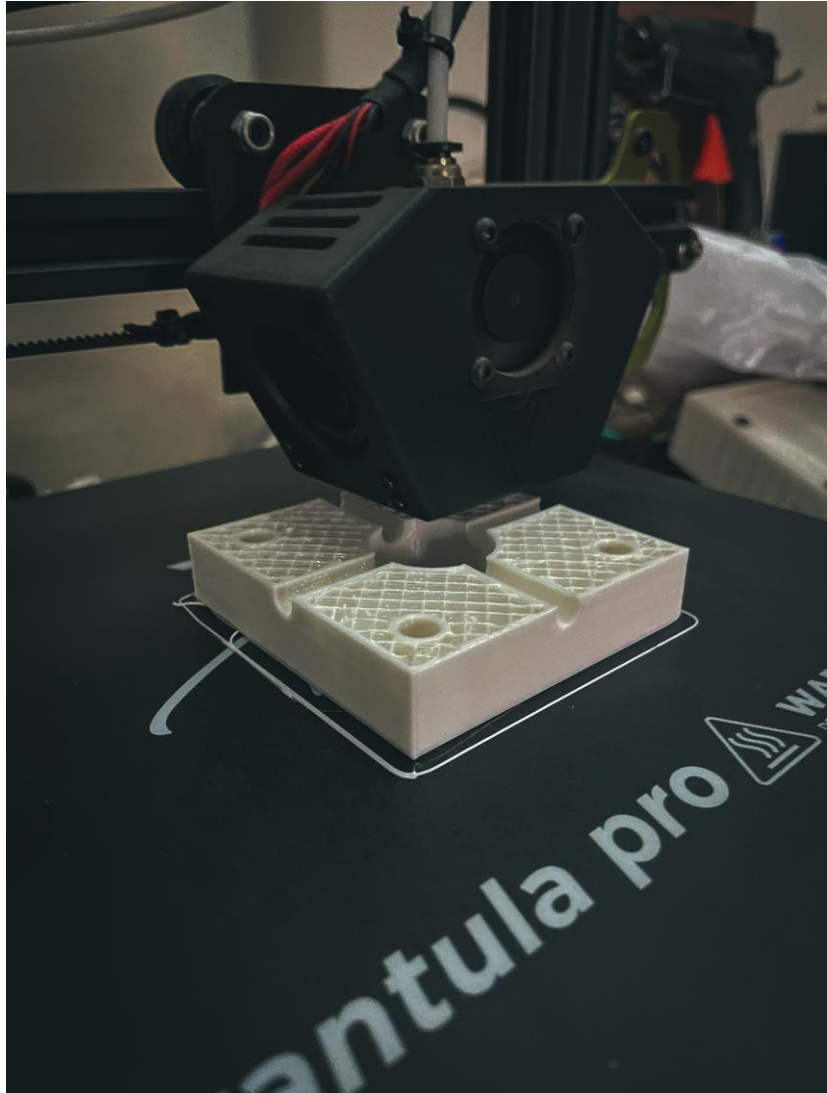
**9. Modeling and Simulation of Hybrid Armored Personal Carrier
(Mechanical System Design) (1712)**

(2017-2021)



Cost: 209,400.99/- PKR

10. Design and Fabrication of IOT based Smart Home (1713)
(2017-2021)



Cost: 11,800/- PKR

11. SMEHA (Smart Management of Energy for Home Automation)

(1723)

(2017-2021)



SMART MANGEMENT OF ENERGY AND
HOME AUTOMATION



Cost: 44,000/- PKR

12. Bio Hybrid Electric Vehicle (1726)

(2017-2021)



Cost: 161,000/- PKR

13. Redesign and Fabrication of Hybrid Electric Vehicle and Testing Rig (1805)

(2018-2022)



Cost: 153,020/- PKR

14. Solar Powered DC Street Lighting System with a Communication System for Creating a Wide Area Data Network (1806)

(2018-2022)



Cost: 85,200/- PKR

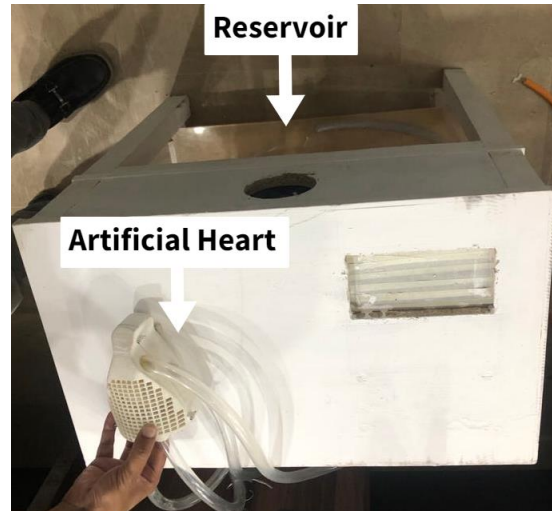
15. Solar-Powered Air Conditioning System based on Phase Change Materials and Solar Heating Using Free Cooling Concept (1808)

(2018-2022)



Cost: 128,540/- PKR

16. Design and Fabrication of an Artificial Heart Prototype (1813)
(2018-2022)

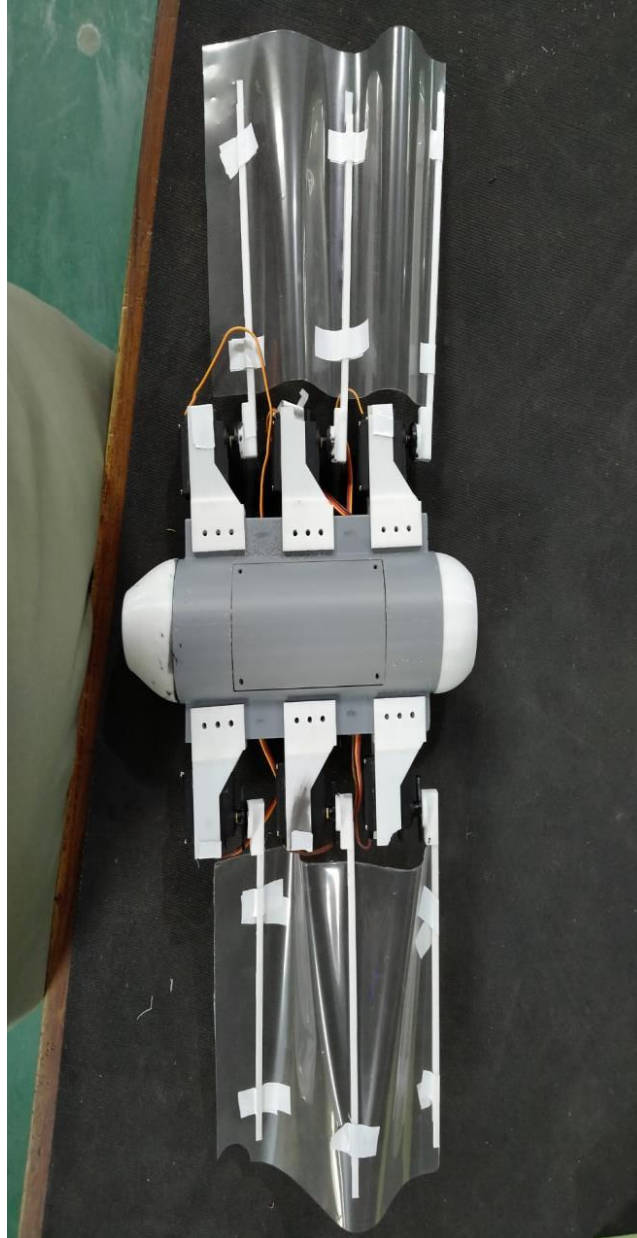


Cost: 74,160 /- PKR

17. Design and Fabrication of Bio Inspired “Swimmer Robot”

(1814)

(2018-2022)

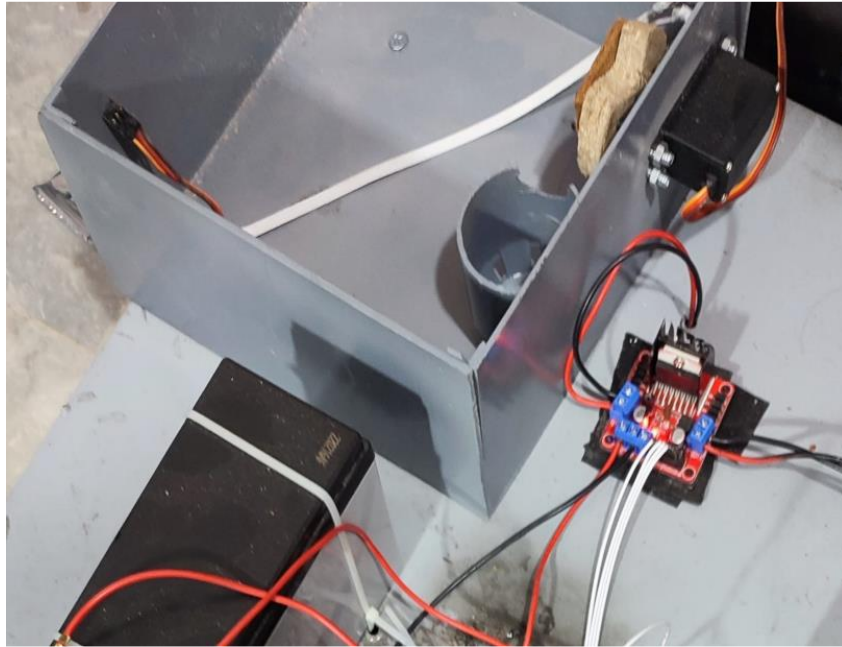


Cost: 21,200/- PKR

18. Smart Farming using Unmanned Ground Vehicle (UGV)

(1819)

(2018-2022)



Cost: 53,550/- PKR

19. Home Energy Management System (III) (1826)
(2018-2022)



Cost: 57,720/- PKR