



Final Year Project Showcase for Batch-2016

Department of Physics Applied Physics Programme		
1	Project Idea	Soiling issue in Solar Panels and its Solution. Project Title: Automated Cleaning System of Solar Panel by Using Microcontroller.
2	Process	Automated cleaning of Solar panels on daily basis. The developed system operates once in 24 hours and cleans the solar panel. In this way soiling issue in solar panels may be addressed to sustain the efficiency.
3	Outcome	Automated cleaning of Solar panels on daily basis maintains the efficiency of solar panels.
4	Evidences (Theoretical Basis)	In a study conducted by one of the FYP group of Batch (2015-2016) in year 2019, it was reported that due to soiling issue, the efficiency of solar panel decreases by 7 to 10% in a period of two months. Therefore automated cleaning of solar panels on daily basis sustains efficiency of the solar panels.
5	Competitive Advantage or Unique Selling Proposition (Cost Reduction, Process improvement, Attainment of any SDG (Sustainable Development Goal), increase of market share or capturing new market or having superior performance over competitor. In summary, any striking aspect of the project which compels industry to invest in FYP or purchase it. Some detail description is required in terms of how, why when what. You can select one or more from following dropdown and delete rest of them)	
a	Process Improvement which leads to superior product or cost reduction, efficiency improvement of whole process (e.g. What is issue is current process and what improvement you suggests)	Automated cleaning of solar panels on daily basis maintains efficiency of the solar panels. Cleaning of solar panel installed on street light pole is a difficult and time consuming task, so this method is useful in solar street lights. In a dusty environment, the soiling ratio is high and significantly affects the efficiency of solar panels. Particularly in solar street lights, where cleaning is a tedious and time consuming task, the proposed solution of automated cleaning is useful.
b	Expanding of Market share (e.g. how it expand and what is problem with current market)	There is no product available in the market related to automate cleaning of solar panels. We need to introduce the product in the market (manufacturers or companies of solar street lights).
c	Capture new market (e.g. Niche market or unaddressed segment)	We need to introduce the product in the market (manufacturers or companies of solar street lights).
d	Any Environmental Aspect (e.g. carbon reduction, energy efficient etc.)	Automated cleaning of solar panels on daily basis sustains efficiency of the solar panels.
6	Target Market (Industries, Groups, Individuals, Families,	Users (Individuals, Municipal Corporations, Solar street light manufacturers).



	Students, etc) Please provide some detail about user of the product, process or service	
7	Team Members (Names & Roll No.)	Taha Afzal (AP-076), Haseeb ur Rehman (AP-059), Muhammad Bilal (AP-77), Waseem Sajjad (AP-073)
8	Supervisor Name	Ghulam Mustafa (gmkhan@neduet.edu.pk) Osama Ayub (usamaayub@neduet.edu.pk)
9	Pictures	Attached
10	Video	Play Video

Pictures:













