International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 06 Issue: 05 | May - 2022 Impact Factor: 7.185 ISSN: 2582-3930

# SMART STREET LIGHT SYSTEM

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**Abstract**- *The most thought within the gift field technologies area unit Automation, power consumption and price effectiveness. Automation is meant to cut back man power with the assistance of intelligent systems. Power saving is the main thought forever because the supply of the facilities is getting diminished because of numerous reasons. As we all know that energy consumption has been increasing drastically as a each passing day so, to beat these consequences we tend to area unit victimisation IoT devices. This project proposes a modal for modifying street light illumination by victimisation sensors at minimum electrical energy consumption. LED bulbs shall be enforced as they are higher than standard incandescent bulbs in every way. This shall scale back heat emissions, power consumption, maintenance and replacement prices and carbon dioxide emissions. In addition to SSSLS (Solar good Street lightweight System), large energy-savings area unit envisioned. Also, an illustration with a period early type model involving prices and implementation procedure has been developed victimisation net of things to check the real time updates of street process and notifying the changes occur.*

Key Words: **Solar cell, Hybrid power, Atmega16, LDR, Relay, Dynamo.**

## 1. INTRODUCTION

Man has required and used energy at as increasing rate for his substance and well. Being ever since became on the earth many million years ago. Primitive man needed energy primarily within the sort of food. He derived this byeating plants or animals that he afraid after he discovered fireplace and his energy would like enhanced as he began to make use of wood and alternate biomass to produce the energy needs for cookery also as for keeping himself heat with further demand for energy man began to use the wind for generating electricity and for driving windmills and the force of kinetic energy water to show water wheels. Until now it'd not be wrong to mention that the sun is supply all the energy desires of man either directly or indirectly & that man was victimisation only renewable sources of energy. One among the promising options is to create a lot of in depth use of renewable sources of energy derived from the sun. Solar power will be used each directly & indirectly. It will be use directly in a very various types of thermal applications like heating water or air, and producing electricity drying, distillation and cookery, the warmth fluids will successively be used for applications like cooling agent, power generation or refrigeration and various processes.

## 2. PROBLEM STATEMENT

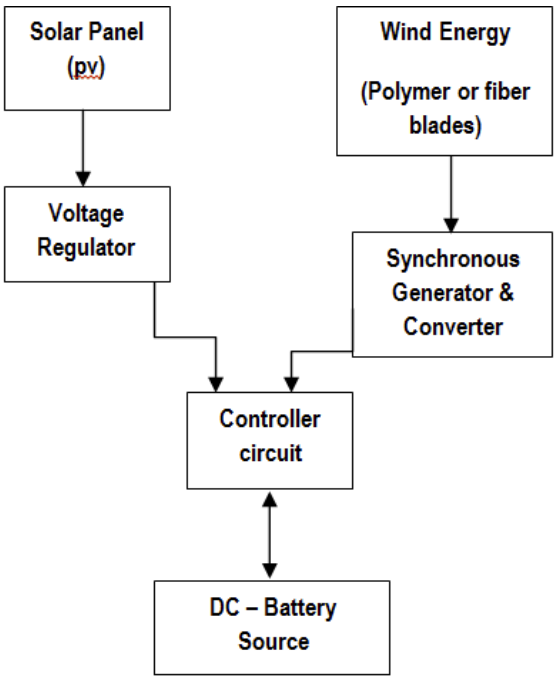
In number of cities it is seen that the street light is one of the huge expenses in a city. Power consumption of those sodium vapour lamps is huge. The expense which is spent on these lamps can be used for other development of the nation. Currently the manual system of switch ON the light in the evening and switch OFF in the morning causes wastage of energy between ON/OFF. Thus there's a great deal of wastage of energy between the ON/OFF, this can be one among the most important causes of shifting to the automated system, since there's less wastage of

power and so saving a great deal of financial expenses.

## 3. PROPOSED METHOD

The present system employs power delivery via one part line to the lamp. The planned system involves 5 additional elements to manage the facility delivery associate below -Red Proximity detector at the bottom of the road lightweight detects presence. The knowledge from the detector is distributed to the Arduino that forms brain of the circuit. The Arduino then commands to modify between dim and bright modes relying upon the need and so controls the brightness of the road lightweight. A battery agent, conjointly high-powered by the only part line, is employed to produce 5V inputs to the sensors and Arduino. The Arduino computer code (IDE) is associate open supply computer code and it makes simple to the code and transfers it to the board. LDR a lightweight Dependent resistance (LDR) or a photograph resistance could be a device whose ohm resistance could be operate of the incident electromagnetic wave. Hence, they're lightweight sensitive devices. They're conjointly known as icon conductors, icon conductive cells or just photocells. They're created from semiconductor materials having high resistance a lightweight dependent resistance works on the principle of icon conduction.

## 4. FLOW DAIGRAM



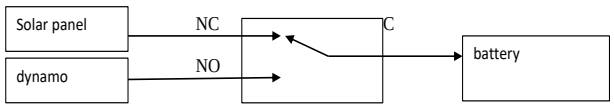

## 5. WORKING PRINCIPAL

In this good Street lightweight System, the road lights are mechanically turned ON and OFF. During this we have a tendency to victimisation LEDs. LED's consume low power and work effectively once not to mention LDR that permits the intensity variation of lights. An LDR is connected to the analog pin of the Arduino Atmega. It controls the LEDs by police investigation the presence or absence of daylight. Once decent daylight is gift within the surroundings, then the LDR offers high resistance and acts as a dielectric. During this case, the Arduino scan high analog output values from the LDR and mechanically close up all LEDs (streetlights). During the absence of daylight, the LDR detects dark and offers low resistance, and acts as a conductor. During this case, the Arduino

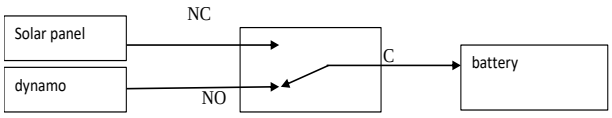
scan Low analog input values from the LDR and mechanically activate the LEDs (streetlights).

Working is as shown below

normal condition(during day)




during night or in cloudy environment




## 6. FUTURE SCOPE

Railway signalling aspects energy potency is one among the key factors whereas planning indoor or outside lighting systems. The road lights consume virtually 30%–40% of the complete town power consumption. For this aim, owing to its style supported the recent lighting standards and inefficient instruments and devices, the standard lighting systems don't seem to be appropriate leading to energy losses. Main aim is to automatism street power saving system to avoid wasting the facility. We would like to avoid wasting the facility mechanically rather than doing it manually. So, it's straightforward to create it price economical. This saved power may be employed in another case. Hence, in villages, towns, etc. we will style intelligent systems for the usage of street lights. This idea in future may be increased by desegregation it with the solar battery that converts the star intensity into corresponding voltage, and this energy may be accustomed feed the road.

## 7. CONCLUSION

This paper elaborates the look and construction of automatic light-weight system circuit. Circuit works properly to show lamp ON/OFF. LDR detector is that the main conditions in operating the circuit. If the conditions are glad the circuit can do the specified work in keeping with specific program. Every detector controls the turning ON or OFF the lighting column. The light has been with success controlled by microcontroller. With commands from the controller the lights are ON within the places of the movement once it's dark. Finally this negative feedback circuit is employed in varied functions.

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