

(54) Title of the invention : IoT BASED ENERGY EFFICIENT SMART STREET LIGHTING TECHNIQUE WITH AIR QUALITY MONITORING

<p>(51) International classification :G09B0023180000, F21S0009040000, F21S0009030000, G08G0001020000, G01W0001040000</p> <p>(86) International Application No :PCT//</p> <p>Filing Date :01/01/1900</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA</p> <p>Filing Date :NA</p> <p>(62) Divisional to Application Number :NA</p> <p>Filing Date :NA</p>	<p>(71)Name of Applicant :</p> <p>1)St.Martin's Engineering College Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>Name of Applicant : NA</p> <p>Address of Applicant : NA</p> <p>(72)Name of Inventor :</p> <p>1)Mr. D. Basava Assistant Professor, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>2)Ms. P. Sonika Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>3)Mr. Bandala Saicharan Reddy Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>4)Mr. M. Dheeraj Kumar Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>5)Ms. Muthyala Yagna Priya Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>6)Ms. M. Navaneetha Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>7)Mr. Kagithapu Shiva Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>8)Mr. Guda Pavan Kumar Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>9)Mrs. K. Divya Vani Assistant Professor, ECE Indian India House No. St. Martin's Engineering College Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>10)Mr. M. Sai Kiran, Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>11)Mr. Shaik Zubair Hussain Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>12)Mr. M. Sai Kiran Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>13)Mr. MD. Asheesh Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>14)Mr. Godepalli Hari Krishna Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>15)Ms. K. Thanushree Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p> <p>16)Mr. Sura Uday Chandra Student, ECE Address of Applicant :St.Martin's Engineering College, Dhulapally Kompally Secunderabad -----</p>
---	--

(57) Abstract :

Automation has created a bigger hype in the electronics. The major reason for this hype is automation provides greater advantages like accuracy, energy conversation, reliability and more over the automated systems do not require any human attention. Any one of the requirements stated above demands for the design of an automated device. Energy can be effectively conserved if we can control the Street lights on the highways by glowing them only when there is traffic on the road, and this is all most impossible to detect the arrival of a vehicle manually without the presence of light. So, in this situation we should think about a system which is capable of sensing the arrival of vehicle and ON the lights and turn OFF as soon as the vehicle leaves the area and measuring the weather of the street with air quality. All parameters will update into IoT based IoT server database system. The micro controller is interfaced with the street lights and the total count of the vehicles will update into IoT. It is the responsibility of the controller to switch the status of the lights with respect to the acknowledgement received to it from the vehicle sensor and post into IoT. The major advantage of the device is it not only controls the intensity of the light as well as power saving on highways and air quality measure. This Project work consists IR sensor to detect vehicle presence or not. LDR sensor to detect day and night mode. MQ2 sensor detects the air quality of the weather. Arduino controller used to design this proposed system. The measuring stations are used to observe street conditions as the intensity of daylight and, depending on the conditions they activate or off the lamps. For these reasons every lamp is designed independent to decide about the activation of light. The base station conjointly checks if any lamp is correctly operating and sends the information using the wireless network IoT.

No. of Pages : 11 No. of Claims : 3