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| **Abstract:** |  |
| People are facing many difficulties with dust particles in every step of life which sometimes may become the passive reason behind death. Nowadays, new gadgets and devices are bringing innovative solutions to make problems simplified and effortless in our daily life. So, the innovation of an autonomous dust sweeper bot can make cleaning tasks effortless and user-friendly. For the last few years, self-directed cleaners have taken major attention by providing customer satisfaction because of its usefulness in helping humans by minimizing physical effort in day to day cleaning purposes. Consequently, a new type of vacuum cleaner bot is implemented by using local resources which can solve the dust problem automatically. One of the additional features of this vacuum cleaner bot is its running capability using a hybrid plugin/solar energy. This bot can repeatedly keep clean places like industries, hospitals, and universities. This bot follows a predetermined line in automatic mode or can be controlled by a joystick. This structure also can detect obstacles on its following path to avoid accidents. It has the charging capability using solar radiation or can be charged from the mains during cloudy days. It collects dust by its cyclone separator vacuum cleaner & cleaning brush, which is designed for the first time by our team. This bot is designed to run on ultra-low power (only 80 W), whereas the lowest power of a conventional vacuum cleaner in the market is around 1800W.  Finally, we can say that this renewable energy-driven smart cyclone separator vacuum cleaner bot is the finest bot that can solve the dust problem by itself. It has far-reaching potential to be the best commercial product in the cleaning era with the assurance of a healthy environment. | |