

## ABSTRACT

*Technology will develop, one of which is IoT or the Internet of Things where all devices can be controlled easily without human intervention. An example of a smart grid is an environmentally friendly technology. Bluetooth is a local network device that is often used by humans to transmit data and Bluetooth uses a 2.4Ghz frequency. Then there are other IoT supporting devices such as air conditioners or air conditioners.*

*Air conditioning has now become a major need in the room, but many feel that the power it consumes is too heavy. The average use of electrical power for 1 AC device is the lowest at 840 watts, while the highest is at 2570 watts. The amount of air conditioning used is in units of PK (Paard Kracht) which is equivalent to 9000 BTU/hr (British Thermal Unit) [1].*

*This research was carried out with the aim of making a tool and system that can help the community to save on the use of electrical resources, and also create a tool to support the use of IoT (Internet of Things) using a microcontroller and room temperature system using bluetooth. This research is expected to provide a solution to the problem of using electrical resources.*

*The output of this research is a system that can monitor room temperature using an android application and communication between two Bluetooth devices goes well. The room temperature sensor has an error value of 0,087% and Bluetooth communication can communicate to turn on the relay when the conditions are met.*

**Keywords:** *Bluetooth, Air conditioner, ESP32*