

## **ABSTRACT**

*Base Transceiver Station (BTS) is one of the important infrastructures in the world of telecommunications. BTS has a role as a liaison between communication devices and BTS has a function to send and receive radio signals to communication devices where the radio signal is converted into a digital signal which will then be forwarded to other terminals into a data or message, the growth of BTS in Indonesia is growing rapidly but not yet accompanied by a security system at the BTS. Even though operators have tried to prevent cases of theft of BTS equipment, cases of device theft still occur.*

*In this final project, security system implementation has been carried out on ESP32-CAM-based communication tower at PT's Site. XL Axiata Tbk in South Sulawesi area precisely at Site Bulo-Bulo Jeneponto Regency and Site Manggala Antang. For the components used in this tool is the PIR sensor as a sensor that detects the movement of an object which will then Trigger ESP32-CAM to take pictures and forwarded to Telegram via a data network from a WiFi modem.*

*From the results of the tests that have been done shows that the results of images sent ESP32-CAM enough to detect an object and ensure the object is human, testing is carried out in conditions day, afternoon and night, but during night conditions should be assisted with the help of light rays to ensure the detected object is human. Pir sensors can detect movement from a distance of 1 meter to 6 meters but at a distance of 7 meters, pir sensors are no longer able to detect movement.*

**Keywords:** *Security System Base Transceiver Station, ESP32-CAM, Sensor PIR*