

## **ABSTRACT**

PT Timah (Persero) Tbk is a STATE-OWNED company engaged in the mining of Tin sand mining in particular. With the results in the form of petrol products Metal Tin.

The process of petrol by way of melting the lead so that the sand into the molten metal which is then printed into a block of lead. And subsequently saved digudang Metal storage Tin before it is marketed.

Security system company surroundings particularly Metal Tin barn still use only without guards equipped technological advances that support. So it is still prone to acts of theft of corporate surroundings.

To resolve the problem as technology advances it is necessary the presence of security sensors installation company surroundings, especially in the Metal Tin. Here we want to apply the system installation Tool Metal Detector ATmega Microcontroller-based Tin 16 so that it can cope with these problems. This system consists of the hardware and software. The hardware consists of ATmega Microcontroller Kits 16, Metal Proximity Sensor, USB Downloader microcontroller, and Buzzer (alarm). Software used Code Vision AVR C Compiler and Khazama AVR Programmer in this research is created by using the C language.

Key words: Metal Tin, Microcontroller AVR ATmega 16 Metal Proximity Sensor, the C language.