

ABSTRACT

Along with the rapid development of technology, the manufacturing process is required to meet the desired standards and quality both in terms of quality and safety. Then there will also be a work environment that does not meet the requirements, the process and nature of the work that is dangerous, as well as an increase in the intensity of the operational work of the workforce.

This study aims to detect the intensity level of gas contamination in a closed room using Turtlebot3, with the features in the Turtlebot3 robot that can map as well as provide data information with parameters that have been determined to be normal or abnormal.

This study proves the time needed for Turtlebot3 by autonomous method (06.58.11 seconds), while remotely Turtlebot3 by tele-op takes as much time (12.12.89 seconds), autonomous way is more time-saving (05.14.78 seconds).

Keywords: gas material, Turtlebot3, contamination intensity.