ABSTRACT

The train is a transportation in the form of vehicles with mobility, either running alone or being joined by other vehicles that will or are moving on the rails. To improve comfort and safety in the use of rail transportation, then to be considered is the work feasibility of every train support device. Switch point train is one of the supporters of the train journey, where the function of the motor is to move the rails so that it can switch lanes. To ensure the motor in a state of worth use is to have some tests equipment. We need a device that can measure the strain of the motor to move the switch point's load.

The device that we use right now is using scale that has been modified. So it can gauge the strain which given by strain switch-point train. There is attached switch-point train must be unattached and than we have to bring it to the testing center.The data that has been obtained still manual and needs cost. so, the order of this thesis is to create a portable device that can measure the swich pont train easily. The design of this device using loadcell sensors,WiFi module and utilize IoT technology to send the result to the website.

The result of this final project is that this Test Tool can measure the thrust and pull on a switch-point train. Loadcell sensor calibration results in the determination coefficient R^2 *of 0.9959. The average strength of a switch-point train when pulling a draft is 580.86 kg with a standard deviation of 4.66 kg and the power when pushing a point is 554.84 kg with a standard deviation of 2.04 kg. The database and web test results are obtained from the results of testing the tool to complete the motor power installed on the rail, all test data can be stored in a database and stored on a web page.*

Key words : ***switch-point train, Loadcell, test equipment, IoT***