Abstract

The thesis at hand will focus on automating the Milrem Robotic's unmanned ground vehicle (UGV) factory acceptance testing (FAT) procedure. The main motivations to take up the task are to make tests repeatable, the results comparable to each other and also free test engineers' time as the production rates are ramping up and the testing of each individual vehicle takes time, which could be invested somewhere else. To solve the problem, system requirements and existing manual tests will be reviewed and tests are formulated based on them and automated.

By the end of the thesis there will be a proof of concept of automated FAT procedure which will test the UGV as much as possible in the manufacturing hall while its tracks are off the ground. As a result of that, the UGV as a whole will be functionally tested after assembly so it is ensured that the remote controller is working as expected, the radio link is up and running and the vehicle tracks are moving as expected according to control messages. After the tests are run, the results and logs gathered are saved to the company's server for future uses. This system could also be used to check the hardware functionality after repairs and maintenance.

This thesis is written in English and is 41 pages long, including 6 chapters, 16 figures and 7 tables.