

# Abstract

The topic of my thesis is the design and development of a test system that is primarily set up to manage all the system-test activities of a BLDC controlled fuel pump. During my work I gathered comprehensive knowledge about the device under test, the concept of testing and the used softwares, as well as the standards regulating the development process.

In the introductory chapter I discuss the role of automated testing, introduce the task itself, and present the structure of the MSc thesis.

In the first few chapters I summarize the knowledge gathered during the review of the corresponding literature, starting with the background of testing and then followed by the ASPICE standard that regulates the development process.

After obtaining the necessary theoretical basis I tried to gain a deeper understanding of the structure and the functionality of the fuel pump that I tested, to find then a suitable test system based on the collected requirements.

After defining the test system, I created the desired tests based on the available system requirements applying the software tools of Vector Informatik company. Besides that I worked on further improvements on the test system, to make it capable of integration with external measurement devices in order to perform tests for development support.

The thesis ends up with a summary of the results achieved and the potential improvements for the future.