

Abstract

This thesis aims to improve air quality measurement systems. There was already a basic measurement system. It was noted that this could be worked out even more. All the existing sensors could be mounted in a better way. The option to change the existing sensors was investigated. There was also a need to improve the power supply. Our end result needs to be a system that has the potential to be applied everywhere, including demanding environments like machine rooms.

During the process of improving the system, we worked partially with 3d models. This saved a lot of money, it could immediately be verified if a part fits or not. In the end, we transformed our 3d models into real existing systems. All the used parts have been compared against other alternatives. The selecting of parts goes systematic, in function of the needs of the system.

Our final system is a system that indeed works everywhere. Our latest 3d model was indeed very close to our end result.

In the end, there is concluded that the measurements taken by the system are representative. This was checked with other measurement systems that served as verification.