

Technology for Testing

Project: Electronics, Testing and Reliable Assembly of Micro-Nano Devices

MEMS are micro electromechanical systems, often not bigger than a button on your shirt, that contain a complete electromechanical system. Often used as sensors, able to measure all kinds of properties. These systems are put on silicium wafers and may be discarded when faulty after assembly due to defects in the wafer. That's where the project idea comes in: early stage testing to find defects before assembly takes place to save time and money.

The project is split up into three sub-projects: the moving table, model based testing and the MEMS testing subgroup. Where the moving table subgroup is focused on re-designing a moving table to position the wafer to a thermal camera setup in order to test the MEMS. The Model based testing subgroup is working on a production process simulation of MEMS, in which different parameters can be varied to see how this affects the result. The MEMS testing subgroup is focused on working closely with Salland Engineering in order to test the MEMS along with software design for this process.

The moving table subgroup's goal is to build a mechanical prototype, including linear motors, encoders, air bushings and fine tuners. The model based subgroup's goal is to develop a production process simulation in which the input parameters and results have a correlation with the different actual process parameters and result. The other goal is to find out if the software used is suited for this task. The MEMS testing subgroup's goal is to develop and improve the testing of the MEMS by writing an algorithm and streamlining this with C++.



The future
is here

