

Master 2014

Suhas Satyamangala Ramesh

Automated 3D Reconstruction.

ABSTRACT - Masterthesis

Currently, majority of the 3D point cloud documentation is done mainly through Laser Scanning where there are some disadvantages like latency and relatively more steps for coloured 3D point cloud or meshed model. Relatively large capturing time is required to achieve dense point cloud, as the area increases the time for achieving point cloud also increases. The laser scanning system can't achieve coloured point cloud in single step; rather it requires one extra step to achieve dense point cloud. Point cloud is stored and through the mesh model it is achieved in the case of laser. To overcome the some disadvantages in laser scanning, Weiss AG is currently developing a new project with mayor companies from the gas and oil market concerning a research and development project related to massive 3D model production.

Weiss AG needs a new workflow and development to document the large industrial sites by means of coloured dense point cloud. It is a Stereo Vision camera which utilizes 2 or more camera to get the scene view from different positions and helps for the making it as 3D coloured point cloud. The successful implementation of Stereo Vision images will support to find the 3D coloured point cloud model.