

Construction Plant Control Using RTK GPS

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ABSTRACT

The use of GPS for construction plant control and guidance is a hot topic in the world of geomatics. Research has been underway for many years into this area, mainly based on using such RTK GPS systems on bulldozers. GPS allows real time centimetre positioning that allows the bulldozer's driver to operate the machinery in a semi-autonomous manner.

Research has been underway at the University of Nottingham for a number of years, investigating the use of GPS for such an application. The research focuses on using RTK GPS for both bulldozer and excavator control.

The following paper details the work conducted at Nottingham, using a Trimble SiteVision system. The work conducted focuses on both controlled trials as well as field trials. An extensive series of real life trials have been conducted, whereby a bulldozer, using the system, was used to re-shape a 100m x 50m piece of ground. The work involved, as well as the results are detailed in the paper.

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