

# **The Long Road to Establishing a National Network RTK Solution**

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## **ABSTRACT**

The ability to receive a Real-Time Kinematic (RTK) GPS correction from any national location without the need for a user to establish their own base station, is a utopian concept to land surveyors. The idea is beginning to become reality however with many government and commercially led networks being established and tested throughout the world.

Ordnance Survey (Great Britain's National Mapping Agency) has over 350 surveyors deployed throughout GB collecting survey data on a daily basis. This data is used for the revision of the National Topographic Database (NTD) – the large scale digital map of Great Britain. Ordnance Survey seeks to maintain the currency of the NTD to an increasing standard and looks to RTK GPS to help achieve this important goal.

This paper describes a prototype project undertaken by the Ordnance Survey. The project installed and ran a network of 20 GPS reference stations in northern England and looked to investigate just as much the software, communication and data fusion issues as answer questions on potential accuracy and station spacing. The configuration of the network components is presented, the 'lessons learnt' so far within the project and the viability of a National Service is discussed. The testing strategy is described along with expected accuracy and performance. In particular the paper discusses the problems that need to be solved in setting up a national (rather than local) RTK service.

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