2007 Cambridge Conference

Date

Tuesday 17 July 2007

Title of session

Workshop 5 - Reference Frameworks and Active Networks

Name of presenter/chair

Chair: Neil Ackroyd, Director of Data Collection and Management, Ordnance Survey

Presenter: Simon Mears, Key Account Manager, Surveying & Engineering, Leica Geosystems Ltd

Rapporteurs

Jenny Harding, Ordnance Survey and Nicholas Hutchings, Defence Geographic Centre

Presentation title: Commercialising Network Corrections

This presentation described the way that Leica has worked in partnership with Ordnance Survey to successfully produce a commercial network correction service.

Ordnance Survey has established a network of around 100 reference stations in order to provide a national active GNSS network for its surveyors, as described by Paul Cruddace in this workshop. Based on a licence provided by Ordnance Survey to use the data feed from this network, Leica have developed a correction service - Leica SmartNet - for use on a commercial basis by the surveying community. Since April 2006 Leica have added further stations to strengthen the network, providing redundancy against failure.

Broadband telecommunications are essential for data transmission, and Leica's SpiderNet service users can access IP data packets using GPRS communications. Legacy receivers can also handle the service by using GSM communications. As a commercial service it is vital that SmartNet is always available, so measures are taken to ensure a high level of delivery. Speed of access to the service is improving all the time. To further enhance SmartNet, GLONASS is being added.

In terms of pricing structure, Leica pay a royalty to Ordnance Survey on each license sold. The user may use a license on any one receiver at any given time. Subscribers want a transparent correction service, and this together with support and information is provided through SmartNet. Currently around 100 users log on to the service per day. The service is currently expanding to provide a GPS network solution for Ireland and the UK.

Questions	Answers
Does MAX replace other approaches such as VRS?	MAX is a way of computing corrections. Known classifiable error sources are separated out and data rebuilt as the correction.
Luiz Paulo Fortes (Brazil): For network RTK, based on experience, what would be the longest distance between reference stations, where a reliable service could still be guaranteed	Simon Mears, Leica: Acceptable distance between reference stations depends on what accuracy the user wants to achieve (e.g. on mainland Britain the distance between stations is around 60-80km). Once the network is installed it is difficult to then densify the network at a later date. Bruce Butler, Trimble: Activity in the ionosphere is latitude dependent, so nearer the equator it can be better to shorten baseline distances. George Dedes, Topcon: Topcon aim to minimise the ionospheric effect over long baselines by use of 3 frequencies, to help overcome noise.