Racal Avionics

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RACAL AWARDED \$16 MILLION EGNOS AND GALILEO CONTRACTS

Racal is playing a lead role in the development of the EGNOS (European Geostationary Navigation Overlay Service) and Galileo satellite navigation systems, following a series of development and initial production contracts, valued at some \$16 million. Being developed by the European Space Agency (ESA), EGNOS will enter service in 2003 and is the European equivalent of the US WAAS (Wide Area Augmentation System). Galileo to be developed by the European Commission and ESA, will enter service in 2008, and is an independent worldwide multi-modal satellite navigation system providing equivalent performance to modernised GPS.

Teamed with NovAtel of Calgary, Racal has been awarded a contract to supply Ranging and Integrity Monitoring Stations (RIMS) for EGNOS. Led by Racal, the programme includes system engineering, development of the RIMS computer, with NovAtel providing the receiver based on their WAAS fielded receiver. RIMS will provide a satellite failure detection capability. Multipath and interference surveys at a number of potential RIMS sites within Europe and Canada will also be conducted.

Development and refinement of the ionospheric and clock algorithms for EGNOS draw upon expertise in clock synchronisation, ionospheric and tropospheric modelling, and orbitography gained through implementation of the Racal Skyfix system. The EGNOS algorithms are based on those of the Northern European Satellite Test Bed, which has been operating at the National Air Traffic Services' Gatwick facility since being demonstrated at the September 1998 Famborough airshow.

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Racal's proven expertise in quality Skyfix service provision was key to its selection for the installation and operation of the reference stations for the EGNOS System Test Bed, for delivery later this year. Equipment has already been installed at existing sites and the company will also provide geodetic surveying of all antenna locations and ensure that sites have minimal multipath.

Sean O'Malley, managing director of Racal Avionics anticipating a leading role for Racal in the development and operation of Galileo, remarked: "The award of these contracts worth approximately \$16 million is due both to the capability of Racal in providing GNSS services, and to our considerable technical expertise and ability to provide services as demonstrated in the success of our Skyfix differential GPS service."

For Signal Validation of the Galileo signal structure, Racal will develop a signal generator, with its subcontractors Dassault-Sercel developing a prototype receiver and the Defence Evaluation and Research Agency carrying out the system testing. Racal's simulator provides flexibility to implement the Galileo signal as it evolves.

The Racal Electronics Group is an acknowledged leader in the development of avionics and satellite communications technology. Racal Avionics' ground navigation systems are in operation at over 160 airports world-wide. The company has particular expertise in the provision of turnkey solutions to meet airports' ground navigation aids requirements. Racal Avionics' extensive experience also includes prime contractorship and systems integration, airborne navigation systems and aeronautical satellite communications equipment. Racal Survey operates SkyFix which is one of the world's largest commercial DGPS services with 70 reference stations world-wide. Racal Research which provides technical support to other Racal companies, has undertaken extensive GPS development work for both Racal Survey and Racal Avionics.

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Note to Editors:

Further contracts for Galileo definition phase will be awarded at the end of this year, and Racal expects to play a vital role. The company's proven capability in providing GNSS services along with involvement in key transport markets throughout Europe makes Racal the ideal company to enable the EC and ESA to define the technical service levels as well as the business and legal environment required for Galileo. Funding and support for the above programmes has been provided by the UK National Air Traffic Services and the UK British National Space Centre who have both worked with Racal over many years developing navigation and satellite systems.