

# **GALILEO, satellite radionavigation programme: development phase, joint undertaking**

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Six months after the Council of Ministers finally launched the Galileo European Satellite Radionavigation Project, the European Commission is continuing the development of this first phase of the first major programme bringing together the EU and the European Space Agency. This communication concerns the state of progress with the programme in which it discusses the various services offered by Galileo, security questions, relations with the US and international cooperation with other third countries. In particular the following aspects will be discussed in turn: - establishment of the Joint Undertaking, - system security; - definition of services and the frequency plan, - relations with third countries.

1) Establishment of the Galileo Joint Undertaking : there have been delays in setting up the Galileo Joint Undertaking following problems within the European Space Agency in finalising the respective contributions of the participating States contained in the programme declaration relating to Galileo. If no solution is found in the short term, the matter will have to be referred to the European Union. The Joint Undertaking must be set up as quickly as possible so that the plan for the call for tenders for the development phase can be approved. When these problems have been overcome, the first meeting of the Administrative Board of the Joint Undertaking can be held to discuss issues such as the financial regulation of the Joint Undertaking, the 2002 budget of the Joint Undertaking and the appointment of the Director of the Joint Undertaking.

2) The security system : the Galileo security Board has started its work. Its tasks are as follows: - defining the technical characteristics of the system with regard to security (encryption, etc.). - assisting the Commission in its negotiations with third countries, particularly on the issue of sharing frequencies with the US. - helping to draw up the proposal for the future security structure for GALILEO operational activities.

3) Definition of the Services and the Frequency Plan : defining services and the frequency plan is vital in preparation for the next World Radiocommunications Conference in July 2003. Each of the services offered by GALILEO entails signals using one or more frequency bands with specific characteristics. GALILEO will offer several service levels, ranging from open access to various level of restricted access: - an open, free basic service mainly involving applications for the general public and services of general interest. This service is comparable to that provided by the American GPS, which is free of charge for these applications, but with improved quality and reliability. - a commercial service facilitating the development of professional applications and offering enhanced performance compared with the basic service, particularly in terms of service guarantee. - a safety of life service of a very high quality and integrity for safety-critical applications, such as aviation and shipping. - a search and rescue service that will greatly improve existing relief and rescue services. - a public regulated service (PRS), encrypted and resistant to jamming and interference, principally to meet the needs of the public authorities responsible for civil protection, national security and law enforcement which demand a high level of continuity.

4) Relations with third countries : GALILEO is a worldwide system. It is therefore intended to serve users all over the world, and its deployment will necessitate a large measure of international cooperation to make it possible to derive maximum benefit from the GALILEO programme: it should help to increase European know-how and develop the satellite radionavigation market in third countries (ground-based equipment and applications). - relations with the United States : international cooperation is based in particular on the interoperability of GALILEO with the existing American and Russian systems so as to enable each user to receive signals from different systems using the same receiver. In this context, the negotiations with the US are reaching a decisive phase and the security questions concerning the procedures for using or interrupting signals in the event of a crisis were addressed at the latest meetings with the American authorities. It should also be noted that a number of signals and frequency bands are associated with the various services offered. Considering the limited space in the frequency spectrum allocated to satellite navigation, the overlay of frequency bands used by GPS and Galileo is inevitable, particularly for secured signals. Such overlay complies with international regulations provided that there is no harmful interference to either of the two systems.

However, the United States, who until now enjoyed a de facto monopoly of satellite radionavigation, are currently - for strategic reasons - opposed to overlay of one of the two PRS signals and one of the two military (or code M) GPS signals at a specific modulation in the high frequency band. - relations with other third countries : in its communication the Commission proposes guidelines for cooperation with a number of third countries. The means of association considered ranged from scientific and technical cooperation to full participation in the Joint Undertaking responsible for completing the development phase and preparing the subsequent phases of the programme. Many projects have already been launched to develop satellite radionavigation applications in the Mediterranean area, Latin America and the accession candidate countries. Activities are also being launched with China, Canada, Australia, Japan, Ukraine and India.