

GALILEO SATNAV: AIRSPACE USERS POSITION PAPER (1st July 2003)

Background

The European Union (EU) and European Space Agency (ESA) have jointly decided that Europe develops, funds and operate a multi-modal Satellite Navigation System called GALILEO, planned to be operational from 2008. This constellation of navigation satellites, would be independent from the US Global Positioning System (GPS) (incl. the GPS next generation). The development of Galileo is expected to cost approximately 3.6 billion Euro and its yearly operational costs are estimated to be 220 mEuro.

Galileo, is intended to be developed through a public private partnership and will consist of a number of subscription services such as the Galileo “Safety of Life” Service.

Issue:

The aviation community has been targeted as potential source of financing for the Galileo system. GPS delivers already comparable services for airspace users and is provided free of charge to the end users. The aviation community expects that similar services from Galileo will be provided free of charge as well.

High Level Position

Satellite Navigation will play a primary role in future navigation. A Global Navigation Satellite System (GNSS) to be used as part of an airborne multi-sensor navigation system (GNSS + inertial navigation systems combined with a flight management system) should allow progressive withdrawal of the conventional ground navaid infrastructure, beginning with the enroute segment. Galileo can potentially become a major step towards a worldwide GNSS on condition that it is designed with this aim in mind.

The operations of many airlines are, by their nature, global. The airlines community is interested in worldwide systems that could provide safe and efficient services, are compatible and interoperable and do not require different avionics. All States should join their efforts to achieve this. The airlines will only accept “benefit driven” solutions and will strongly resist all those that are “technology driven”, not supported by a clear business case and safety case.

In this context, the airspace users question the need for the Galileo “Safety of Life” Service for aviation applications. The Required Navigation Performance (RNP) accuracy and integrity requirements for aviation safety applications are fulfilled with multi-sensor systems, as already available on today’s aircraft. The requirements for more safety critical precision approach, landing and ground movement applications can be fulfilled with the Open Access Service when used with the multi-sensor systems, as already available on today’s aircraft, supplemented by a Ground Based Augmentation System (GBAS).

The airspace users are dismayed that the European Commission continues to refer the PriceWaterHouseCoopers (PwC) Galileo Business Case Study. This study concluded that improvements in air traffic control, would produce 5 billion Euro in annual savings and recommends, on this basis, that civil aviation should contribute up to 100 million Euro per annum to the Galileo Service Provider (20% of the total revenue). The airspace users re-iterate that the PwC study is fundamentally flawed since it has mixed up benefits of any potential Air Traffic Management improvements with Galileo.

Any potential Galileo Service Provider should not rely on the PwC Study in assessing potential revenues to be derived from aviation. As well, the airspace users stress that they oppose pre-financing the Galileo system either directly or indirectly via contributions from Air Traffic Service Providers to the Galileo Public Private Partnership.

In this respect, account should be taken to the fact that the EUROCONTROL Enlarged Committee for Route Charges developed a methodology for determining the appropriate proportion of costs that should be borne by aviation in a multi-modal GALILEO service, based on an index for each navigation requirement. The EUROCONTROL Member States have endorsed this conclusion and methodology. It should be accepted and thereafter applied on a world-wide basis to develop a legal structure recognising the multi-modal nature of GNSS. According to this methodology it was determined that less than 1% should be recovered from aviation users for a constellation of satellites offering CAT I capability. This recognises that aviation is only one potential user of GNSS standard services and should be treated in a fair and non discriminatory manner in the provision of a multi-modal service.

The airspace users would like to stress that any benefit driven implementation of GNSS, should adequately address the cost and realistic time-frame for airborne equipage. In order to achieve this goal, there is a clear need for a worldwide Navigation Strategy, not only a European Navigation Strategy. The Strategy should be developed under the auspices of ICAO, be supported by all key partners and should resolve all outstanding technical, institutional and cost/benefit issues of GNSS, including the need for a realistic transition plan. Any future decision to mandate the use of GNSS for aviation applications will be taken by the aviation community, based on the above considerations.

In order to maximize potential benefits and minimize airborne costs, the development of GPS and Galileo has to be executed in a coordinated manner, such that the airborne avionics can combine both constellations as part of a single GNSS.

Finally, the airspace users would like to recall that they have resisted the development of the European Geostationary Overlay System (EGNOS), which has been mainly developed for political reasons and for which all attempts to build a credible aviation business case have failed. As a consequence, public funds have to be provided to fund the entire EGNOS system (development costs as well operational costs). Reference is made to the AEA, IATA, ERA, IAOPA, IACA joint position paper on the European Commission's Communication (COM(2003)123final) on the Integration of EGNOS into Galileo.

**Comment to European Commission
Communication to the European Parliament and Council
“Integration of the EGNOS Programme in the Galileo programme”
(COM(2003)123final; dated 19th March 2003)**

Background

EGNOS is a first generation European augmentation system to the American Global Position System (GPS) as well as the Russian Glonass. EGNOS as a concept was first mentioned in a communication of the CEC of 14th June 1994. The development of EGNOS is based on a tripartite agreement between the European Commission, European Space Agency (ESA) and Eurocontrol. The development of EGNOS has cost approximately 310 million Euro and its yearly operations costs are estimated to be approximately 33 million Euro.

Thereafter, the European Union (EU) and European Space Agency (ESA) decided to develop and fund Galileo, which is designed to be independent from, and compatible with GPS and scheduled to be operational by 2008.

The European Commission identified that the primary benefit of EGNOS is to speed-up the entry into service of Galileo and as a consequence has now issued a Communication addressing the issue of the integration of EGNOS into Galileo. In the absence of demonstrated revenue streams for EGNOS, and in particular from aviation, the European Commission is proposing to provide public funding (up to 33 m Euro per year) for the operations of EGNOS from 2004 until at least such moment in time when EGNOS will have been integrated into Galileo (2008).

Issue:

The airspace users have not been instrumental in requiring the EGNOS system, which has been predominantly developed for political reasons. Airspace users have long opposed paying for EGNOS, which has not satisfactorily demonstrated tangible operational benefits and for which all attempts to build a credible aviation business case have failed. With regard to funding, the airspace users have additionally been long opposed to pre-financing and to discrimination against aviation in favour of other modes of transport.

Indeed despite the airspace users' opposition a number of European Air Traffic Service Providers (as represented in the EGNOS Operations Infrastructure Group (EOIG)) have, according to the Communication, invested approximately 100 million Euro in EGNOS. Through the current aeronautical charging system, part or all of those investments have already been, or will be, billed to the airspace users unless public funding is provided to reimburse the EOIG for such amounts.

Position on COM(2003)123final:

The airspace users welcome the fact that the European Commission acknowledges that public funding will have to be provided for the 33 million Euro annual operational costs of EGNOS and they do not expect to be charged for EGNOS operations in any future.

Airspace users expect that further public money will be made available to reimburse the airspace users money that has already been committed by the EOIG in the development of EGNOS and has been recovered by user charges to the airspace users. This reimbursement is all the more important since airlines and other airspace users face one of the worst crisis in aviation history.

Only then will airspace users feel comfortable that EGNOS is not developed and operated against their wishes and at their expense.

As a consequence, the Council and Parliament are requested to take action concerning EGNOS funding in order to rectify a situation unfair to aviation and to ensure that this situation will not be repeated in the future.