

Eurospace's recommendations to the European Governments

Introduction

This paper has been prepared by Eurospace after the publication by the European Commission of the Communication on Galileo, on February 10th, 1999, and after the presentation by industry of the GNSS-2 studies at ESTEC on 11 and 12 February.

It is addressed to the European authorities and is to be distributed to the ESA delegations and the ESA Executive as an industrial input for the preparation of the May 1999 Council at Ministerial level.

LIST OF THE RECOMMENDATIONS

Recommendation 1

Eurospace welcomes the E.C. Communication on the Galileo initiative, and urges the various governments to give their full support to develop a system which will guarantee that the European contribution to GNSS-2, "Galileo", shall be compatible and interoperable to GPS. Co-operation on Galileo/GPS standardisation between Europe and US shall be pursued.

Recommendation 2

A stand-alone European space segment component in GNSS-2 including related operations is needed to ensure long term availability of the system to users in Europe.

Recommendation 3

The financing of this system could be based on the participation of the private sector as long as a guarantee of service utilisation comes from the public sector. However the development and initial deployment phase of GNSS-2 must be directly or indirectly financed by the public sector.

Recommendation 4

ESA shall take the initiative to set up quickly the adequate technical & management structure, involving available expertise and knowledge where appropriate, to kick-off and manage the industrial contract for the GNSS2 Definition Phase, as from mid-1999 (Phase B).

Recommendation 5

Europe needs a user-representing organisation (involving users, key operators and service providers) to act, with the other investors, as customer for Europe's GNSS-2 development programme. International standards, service demonstration campaigns and system promotion have to be planned from the very beginning.

Recommendation 6

The European Commission and ESA shall be prudent and realist in negotiating the possibility to develop Galileo jointly with the Russian Federation.

Recommendation 7

All efforts have to be made to obtain the best possible results from the 2000 World Radio-communications Conference (WRC) regarding the frequency allocation.

Recommendation 8

A Promotion action of Galileo to other countries should be started as soon as possible by ESA and EC (presumably DG 1, with support of the others DG as appropriate) in close co-operation with industry.

DETAIL OF THE RECOMMENDATIONS

Recommendation 1

Eurospace welcomes the E.C. Communication on the Galileo initiative, and urges the various governments to give their full support to develop a system which will guarantee that the European contribution to GNSS-2, “Galileo”, shall be compatible and interoperable to GPS. Co-operation on Galileo/GPS standardisation between Europe and US shall be pursued.

Supporting argument 1: With GPS and Galileo constituting two independent space segments of equal performance but compatible and interoperable, the robustness and the overall performance of the world navigation system will be substantially improved, the users’ confidence in satellite navigation, increased and this will result in a broader market penetration. From the global point of view such an approach would be the most economic way to combine the nations’ investments.

However GNSS-2 could probably be used as sole means of navigation for certain safety critical services.

Supporting argument 2: Europe should ensure that its GNSS-2 satellites provide signals which are compatible with equipment for American GPS satellites and vice versa in order to ensure maximum market growth. However Galileo navigation signals could be different from (and better than) GPS’. Indeed, the compatibility and interoperability between the two systems can be supported also (and, to some extent, better) by different signals. In addition, at the end of the day, the mass market does not require tremendous improvements in navigation performances but is likely to be very sensitive to the cost and to the development of new, user-friendly applications based on satellite navigation, including, possibly, communication capabilities integrated at system level. Mass market success of Galileo can only be reached if all issues, technical, policy, economical and commercial, are accounted together.

Recommendation 2

A stand-alone European space segment component in GNSS-2 including related operations is needed to ensure long term availability of the system to users in Europe.

Supporting argument: GPS receivers are already widely used in many sectors of the economy and this penetration will increase in the future. Major parts of the economy will thus become more and more dependent on the availability of GPS signals. European governments must take political action to ensure that GPS signals and eventually GNSS-2 signals remain available and their standards are not changed unilaterally by the USA. The strongest mechanism available to Europe to ensure continued GPS/GNSS-2 availability without unilateral standards changes is to have a credible capability to provide the service ourselves.

Recommendation 3

The financing of this system could be based on the participation of the private sector as long as a guarantee of service utilisation comes from the public sector. However the development and initial deployment phase of GNSS-2 must be directly or indirectly financed by the public sector.

Supporting argument 1: The space segment of the American GPS system is funded totally by the Department of Defence. The Russian GLONASS system is also funded by the military. For non-military users, access to the signals from these space segments is free. Therefore users cannot be expected to pay for the basic signal as they do for telecommunications services. The private sector might be willing to finance the initial cost of implementing the system if the public sector guarantees to buy the service at a reasonable price and reasonable conditions.

Supporting argument 2: However, also in the Public Private Partnership (PPP) scheme, after the identification of the best system design (for example integrating navigation and communication services) to support revenues, the costs sharing between public and private investors could be: public money could be dedicated to the R&D and in the initial deployment of Galileo and privates could pay for the development of specific applications and corresponding maintenance and operations.

Recommendation 4

ESA shall take the initiative to set up quickly the adequate technical & management structure, involving available expertise and knowledge where appropriate, to kick-off and manage the industrial contract for the GNSS2 Definition Phase, as from mid-1999 (Phase B).

Supporting argument 1: The EC communication on Galileo is recognised as an excellent framework to sum up the issues at stake in the field of GNSS and to address the way forward for Europe. The Zero Option being clearly rejected, it is of utmost importance to have the European GNSS2 programme on track without delay.

The Definition Phase (mid 1999 - end 2000) is in this context the very first important step to be launched after the political decisions expected in May and June 1999. European industry confirms that the industrial work can be kicked-off immediately (not forgetting the necessity to associate the user's communities in the early definition of the programme, as indicated in Recommendation 6 below) afterwards. ESA has readily available the technical, organisational and contractual assets and tools to play a central role in initiating these activities on a European scale. ESA should be tasked (after a thorough examination of the user's requirements) with the preparation of the Definition Phase Request For Quotation and the resulting industrial contract follow-up, assuming the ESA budgets will be authorised at the Ministerial Conference in May 1999. Time to market is a critical point in front of the US GPS IIF programme and the industrial activities must be initiated now on a significant scale.

Supporting argument 2: ESA's role is essential in raising public money for the R&D and the development phase.

Supporting argument 3: Small companies shall be encouraged to participate in developing and maintaining the Galileo system and to participate also in developing derived services and applications. Selection procedures as used in the ESA framework to promote competitive small companies seem an appropriate way to achieve these objectives.

Recommendation 5

Europe needs a user-representing organisation (involving users, key operators and service providers) to act, with the other investors, as customer for Europe's GNSS-2 development programme. International standards, service demonstration campaigns and system promotion have to be planned from the very beginning.

Supporting argument 1: Sir Alistair Morton, Chairman of Eurotunnel, said that the greatest mistake made in the Channel Tunnel programme was not to have a real client for the programme. He said that the client should have been an organisation which was motivated by making a success of the operation of the Tunnel. Instead the client was made up of the engineering companies who were contracted to build the Tunnel. "It was" he said "a project with a hole in the middle where there should have been a client". GNSS-2 will be a public transport infrastructure project on a scale of the same order of magnitude as the Channel Tunnel. At the moment, the only available client is the European Space Agency which represents the space systems supply sector not the transport user sector. The European governments must ensure that a suitable user-oriented organisation is identified and/or created in time to ensure that the specification of the system is appropriate. Only with such a client in the driving seat can European tax payers be sure that Europe's GNSS-2 will be operated successfully as well as deployed successfully.

Supporting argument 2: The economic impact of GNSS-2 is to be expected from the user segment. i.e. the navigation signal receivers to be deployed in many different applications. Therefore the user community has to be developed in parallel to the space and ground segments.

Supporting argument 3: If Europe is to be acknowledged by the US as a real future player in global satellite navigation, then a strong backing from a user-representing organisation is a prerequisite, assuring a multitude of attractive services offered by the European system eventually not available on GPS IIF.

Supporting argument 4: The investments of service providers and key operators in infrastructures for mass market services and applications have to be oriented towards Galileo well in advance.

Supporting argument 5: Galileo provides an opportunity for Europe to lead the car/truck/bus segment of the market, which is by far the largest segment of the potential markets. Car/truck/bus users of GPS rely on a multitude of different location techniques. Europe can define and encourage, in the Galileo context, a single standard system, avoiding the current proliferation of different mutually incompatible systems. In the definition of Galileo, a co-operation should be established as soon as possible with such users, in order to optimise the system in function of their real needs and avoid specifying a system capable to serve all theoretically possible applications and, therefore, uselessly complex.

Supporting argument 6: If the public-private partnership policy is to become a success, then the user representing organisation has to identify commercial opportunities in the very early phase of system design in order to attract potential investors in time.

Recommendation 6

The European Commission and ESA shall be prudent and realist in negotiating the possibility to develop Galileo jointly with the Russian Federation.

Supporting argument 1: Russia has acquired a sound experience in the operation of a satellite navigation system over the last 20 years. Russia has offered the joint use of GLONASS frequency bands in case a satisfactory co-operation in GNSS-2 could be established. However the EU security interests, the objectives of a common foreign policy and European industry's long-term interests must be safeguarded in such co-operation.

Supporting argument 2: The current economic difficulties in Russia cast doubt on commitments of Russian involvement in an international programme. The International Space Station programme as suffered as a consequence, with America forced to fund Russian activities in order to protect the overall programme. Therefore, while Russia can and should be involved in Galileo, its role must be such that failure to deliver on time does not impact the overall integrity of the programme objectives.

Recommendation 7

All efforts have to be made to obtain the best possible results from the 2000 World Radiocommunications Conference (WRC) regarding the frequency allocation.

Supporting argument : The problem of frequency allocation is crucial. All effort should be deployed to define a firm European position, ensure that the European delegations speak with one voice and deploy the diplomatic actions necessary with the international partners, including Russia and the USA with a vigour commensurate with the stakes. The efforts of all partners involved, the Commission, CEPT, ESA, the national authorities and the private sector ought to be urgently co-ordinated.

Recommendation 8

A Promotion action of Galileo to other countries should be started as soon as possible by ESA and EC (presumably DG 1, with support of the others DG as appropriate) in close co-operation with industry.

Supporting argument: Use of Galileo by other countries than Russia and Europe would enlarge the market accessible to European industry and enable to find allies in the discussions at WRC 2000.
