

**ILA28/NAV99
KEYNOTE ADDRESS**

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Introduction

It is almost commonplace to start a conference like this by declaring that we are at a turning point. However, developments in radionavigation over the last year really do justify this statement. The United States has approved the modernisation of GPS and is reviewing extending the life of its Loran system. Europe has decided to go ahead with an independent Global Satellite Navigation System (Galileo). NELS has agreed to implement Eurofix and IALA has co-ordinated a new frequency plan for DGNSS in Europe. The Far East Radionavigation System is in the process of being transformed into an inter-governmental organisation and widened its remit to include DGNSS. IMO has finally approved carriage requirements for electronic navigation receivers and Automatic Identification Systems. This really has been a momentous year for radionavigation and it is an honour to be able to review these events in the keynote address at the last international navigation conference of the millennium.

Satellite Systems – the Next Generation

The approval of GPS modernisation and the decision in Europe to go ahead with Galileo, with target dates of 2010 and 2008 respectively, mean that there could be two, compatible, but independent satellite navigation systems available, providing high accuracy, availability and integrity. These systems should meet the needs of most users, without augmentation. The place of GLONASS in this future mix of systems is a subject on which we hope to hear more during this conference. Likewise, the role of the Satellite Based Augmentation Systems (EGNOS, WAAS and MSAS) will be an interesting topic.

Terrestrial Systems

In spite of these exciting developments it would be premature to think of discontinuing all ground-based navigation systems. There will always be applications requiring extremely high integrity or accuracy, which will demand additional systems on the ground. We also have to provide adequate service in the period up to 2010 and cater for the real possibility of delays in implementation of either of the new systems. GPS is proving an excellent system, but prudent service providers are not throwing away all other aids to navigation.

In particular there is a resurgence of interest in Loran. The review in the US of an expansion to the life of its Loran system was made as a result of demand from users and very convincing cost-benefit figures. The system needs modernisation, but will cost very little to run.

The potential consolidation of the FERNs agreement would secure the future of Loran in the Far East and the introduction of Eurofix should allow NELS to reach a much greater user base in Europe.

Integration of Systems

The full integration of Loran with GPS, for example in the form of Eurofix, provides many advantages, about which we will hear more during this conference. In particular it has the attraction of long ranges for the broadcast of corrections and it provides a fall-back positioning system, in the event of loss of GPS, for example due to masking. In some respects Eurofix appears to do the same job as the already established marine radiobeacon DGNSS and the soon to be available SBAS, such as EGNOS. This apparent overlap in the functions of systems has recently been the subject of serious consideration in IALA, as well as in the US and the European Commission. Initial indications are that while the opportunities for integration of infrastructure may be limited, the potential for combined solutions in the user equipment could be very exciting, however, this depends on full, international standardisation of receiving equipment. We hope to hear more about these possibilities during the next few days.

Multi-modal application

I am conscious that there are as many people here representing land users as marine or aviation and it seems an appropriate time and place to promote the multi-modal approach. The days when each mode of

transport could provide its own systems in isolation from the others have gone. It is essential that providers of systems for land, sea and air work together in order to provide the user with the best possible service at an affordable price. A good example is the expansion of the US DGPS network to provide complete land coverage. Should the same be considered in other parts of the world? The opportunities for multi-modal use of systems could be a good topic for discussion at this conference.

IALA Policy

IALA recognises that satellite systems have become the primary means of navigation for many applications and supports and encourages its member authorities in providing such services. IALA also encourages its members to provide high accuracy systems by means of differential transmissions, where the requirement exists. However, for the reasons given earlier, IALA has a policy of supporting its members in the planning, co-ordination and implementation of Loran and it seems likely that this will continue in the coming decade.

Concluding remarks

In conclusion it has been noted that the last year has seen some momentous decisions on radionavigationm developments. These must be taken into account by service providers in their forward planning, but the time is not right for abandoning existing systems. Indeed some, including Loran, are having a new lease of life. We are also seeing increased interest in the integration of systems and in co-operation between the different modes of transport. These trends are likely to grow and should be encouraged.

It will be interesting to hear more about these subjects at this conference, which draws together technical experts, policy makers, service providers and manufacturers from all over the world and from all user communities. May I wish you a pleasant and productive three days.

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