



## **34<sup>th</sup> Annual ILA Convention and Technical Symposium**

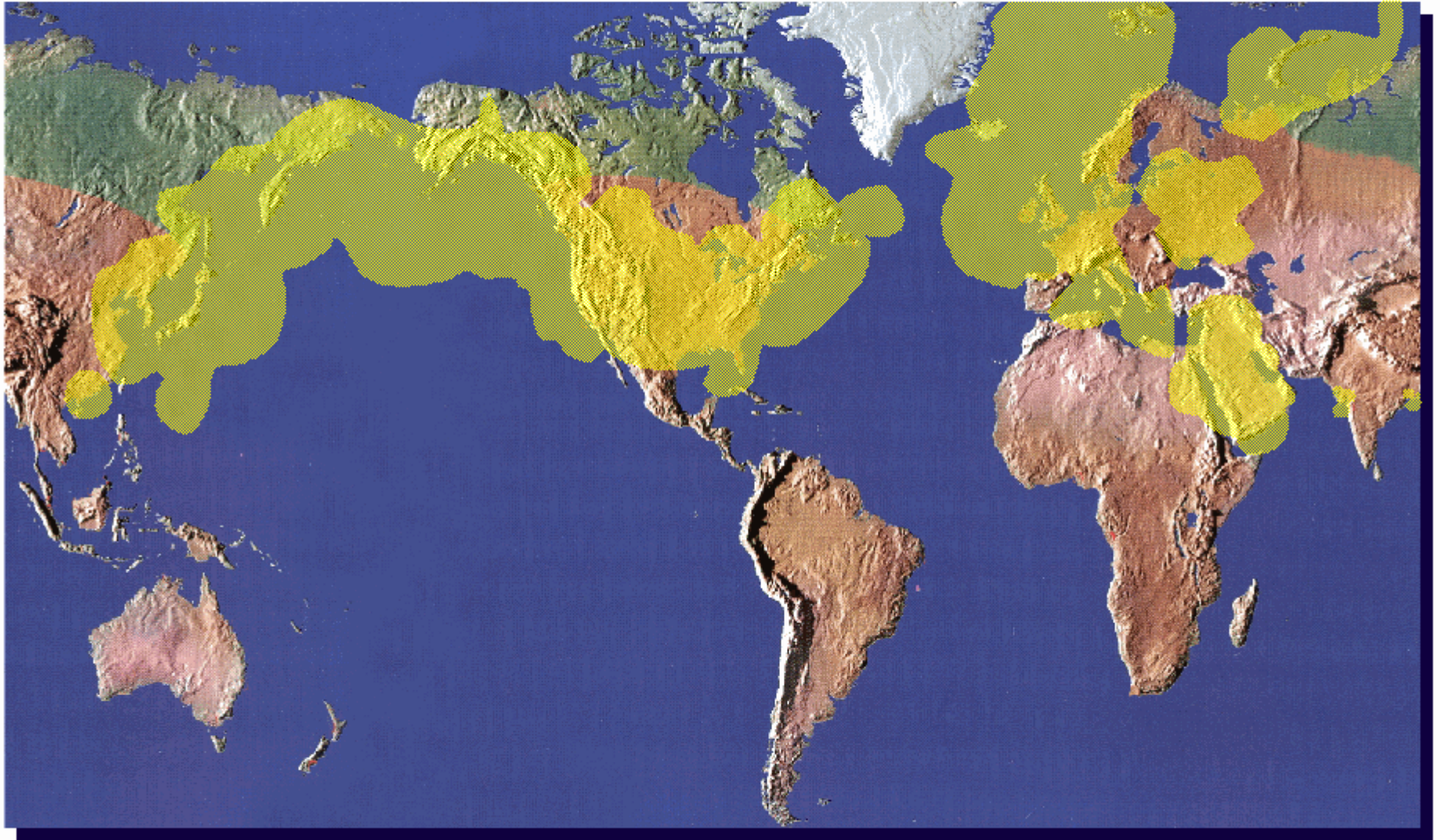
**17-19 October 2005  
Santa Barbara**

# **Loran C in Europe**



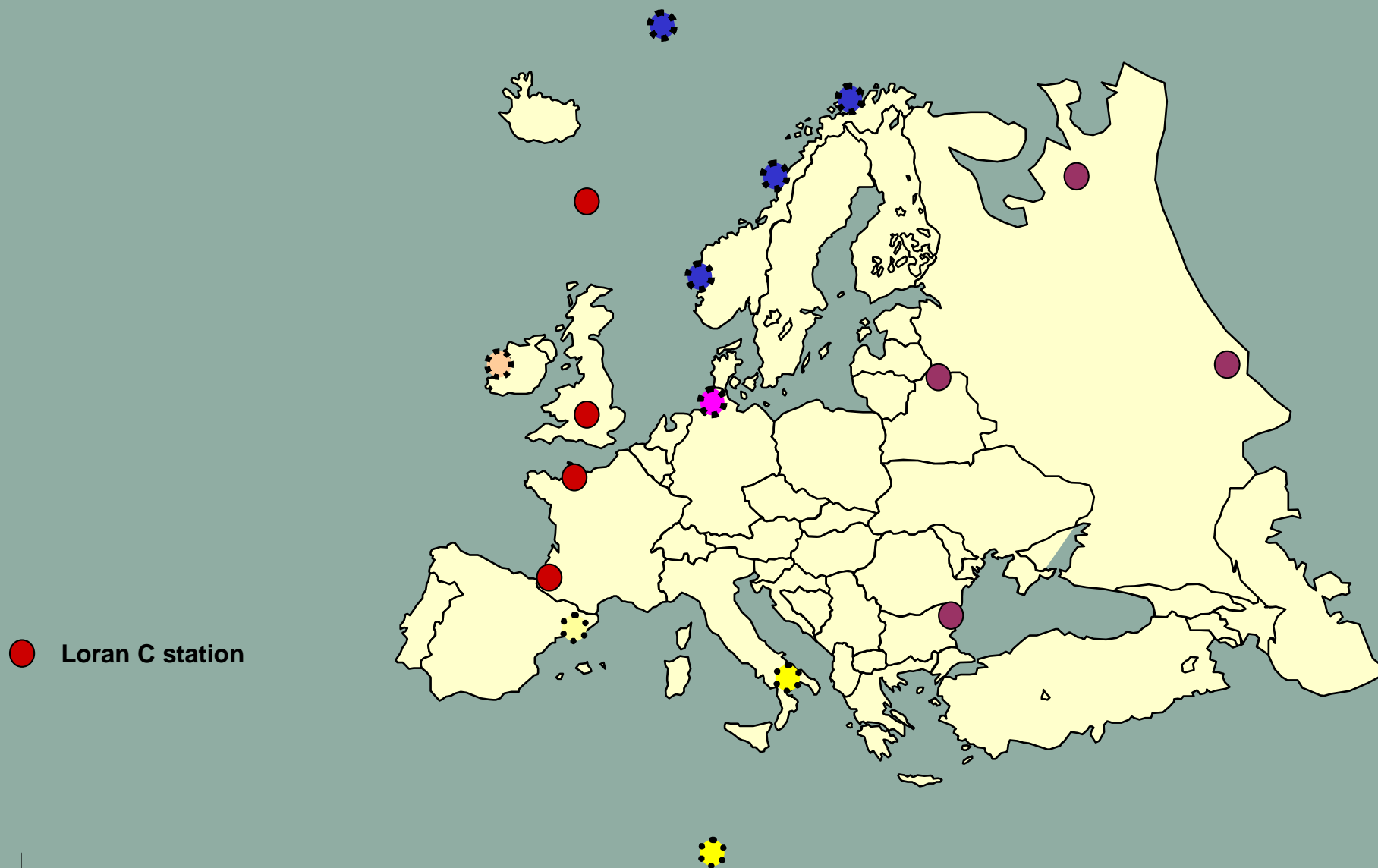
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Ministry of Transport, Infrastructures,  
Tourism, and the Sea  
France**

**Although Loran C is today spread over the world**





**In Europe, many stations are closing down !**



## What are the main reasons of that status ?

Governments (in Denmark, Germany, Norway, The Netherlands), has taken the decision not to extend the NELS international agreement because :

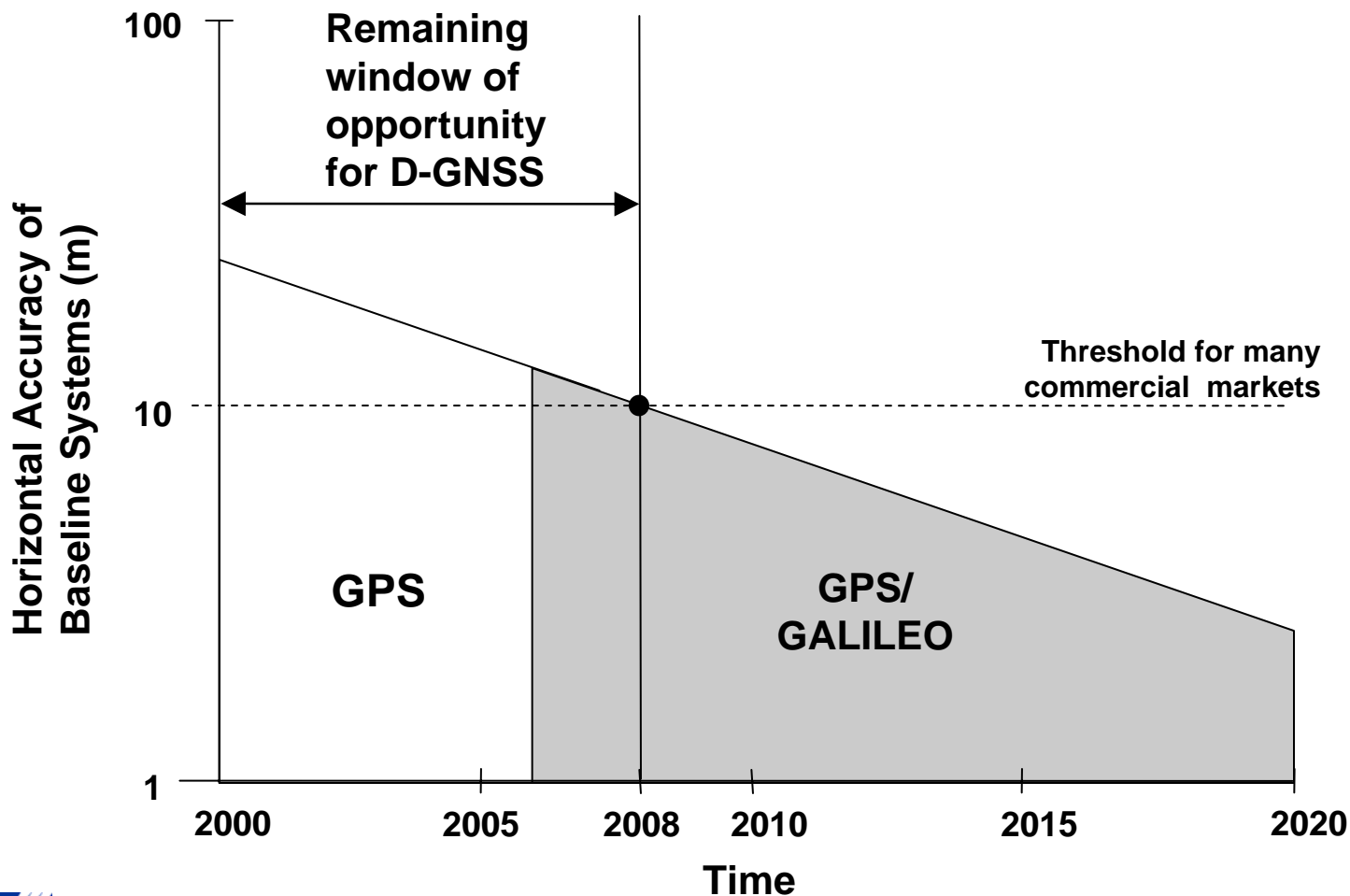
- they want to reduce their budget expenses
- there are no numerous populations of Loran C users in Europe
- they do not receive any new commitment regarding Loran C role in the world

NELS organisation has not been the appropriate tool to support Loran C in Europe

- NELS do not take care enough of users
- NELS do not take care enough of the need of new generation type receivers



## For some countries in Europe, there is no interest in Loran



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## However, are they some positive points ?

The studies conducted in USA show that e-Loran is meeting the requirements

>>> but, as there is no official statement, this is not taken in account by European governments

Maritime users want a back-up system. On vessel bridges, the use of at least two independent positioning system should be mandatory. This is an important part of the e-navigation concept

>>> but, it is only a concept, today

A new station has been implemented by UK, at Rugby, for a trial period

>>> but what is the future of that station, without the Norwegian and German one's ?



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## What does France expect ?

- Loran C is the only back up system today available, *for a very short period*, over the major part of Europe
- To do something, a cooperation at the European level is absolutely needed, in coordination with the Galileo program

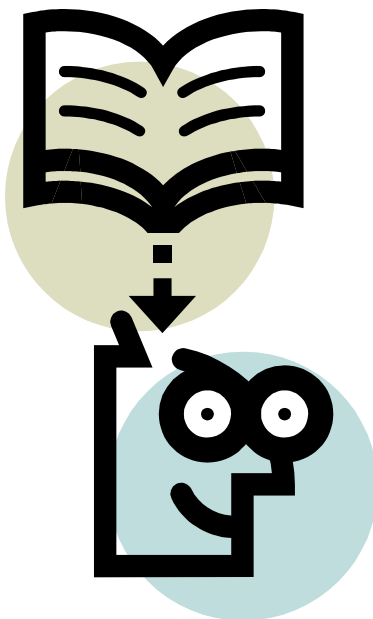


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## What did we know ?



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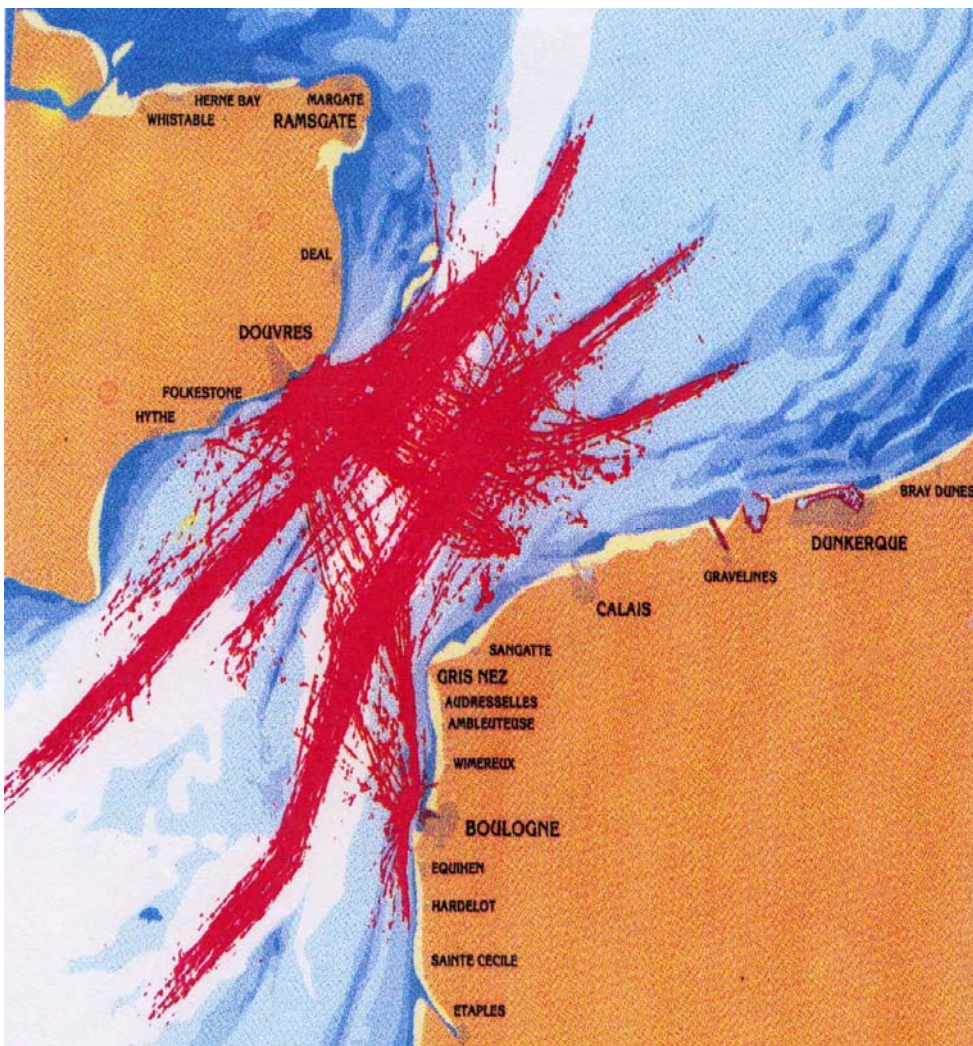


## **We all know the conclusions of reports**

- The “Volpe Report” (Sept-2001) identifies the need to ensure that appropriate and adequate alternative systems are maintained as required for use by maritime, aeronautical and land navigators, as well for timing and telecommunications applications.
- The ERNP study (Oct-2004) points out the vulnerability of GNSS and recommends using and even expanding the European coverage of Loran C in order to mitigate this vulnerability and ensure continuity of the service. The report recommended that an Europe-wide decision be made on the future retention and expansion of Loran-C within the context of the ERNP.



## France is facing a huge traffic in the Channel



200 000 boats per year !

For the Directorate for Maritime Affairs, the risk in such an area is too high to accept a sole mean positioning concept, relying only on GPS, for AIS for example



## Many groups are considering Loran C as a backup

A number of professional international organisations asked for the continuation of Loran C as a backup system :

- Internal Maritime Pilots' Association, IMPA Resolution "Vulnerability of Satellite Navigation Systems (GNSS)" (Aug-2002)
- Royal Institute of Navigation (RIN) "'Loran as a GNSS Backup" (APR-2004)
- Confederation of European Shipmasters' Associations "Loran-C as Backup System for Satellite Navigation Services", Resolution 2 (Jun-2004)
- IALA "Loran C and Chayka in the 21<sup>st</sup> Century" (Sept-2004)
- China MSA "The Future of the Loran -C/Chayka Radio Navigation Systems"
- IALA Recommendation R-128 (Dec-2004)
- EMRF "GNSS Vulnerability & Mitigation Measures", report made for EU



## The consequences of jamming began to be known

The fact that it is so easy to jam the satellite signal could have consequences, a company could be interested to create problems to another company, in several types of work .

Jamming (intentional or not) of GPS will affect many applications, that could be strengthened by Loran C integration :

- Rubbish collect
- Express parcels transport
- Mail
- Living animal transportation
- Petrol components delivery
- Warranty temperature of goods transportation
- Secured transportation for high price goods



## The relation between Loran and type of users could change

As we see in that list of applications, Loran C is no longer a tool restricted to the mariners' use

Land navigation and timing services are gaining importance, especially in the light of terrorism. The one for Road User Charging, as a complement to GNSS, could be the biggest application of the Loran-C technology in Europe. But there are no organisations, means, to express terrestrial users needs, instead the new type receivers market is on the terrestrial applications.

Airlines companies, and civil aviation companies in Europe do not want to hear about new equipment to be paid. They are still furious to pay for EGNOS. General aviation users are not in a position to ask for certification of Loran in Europe

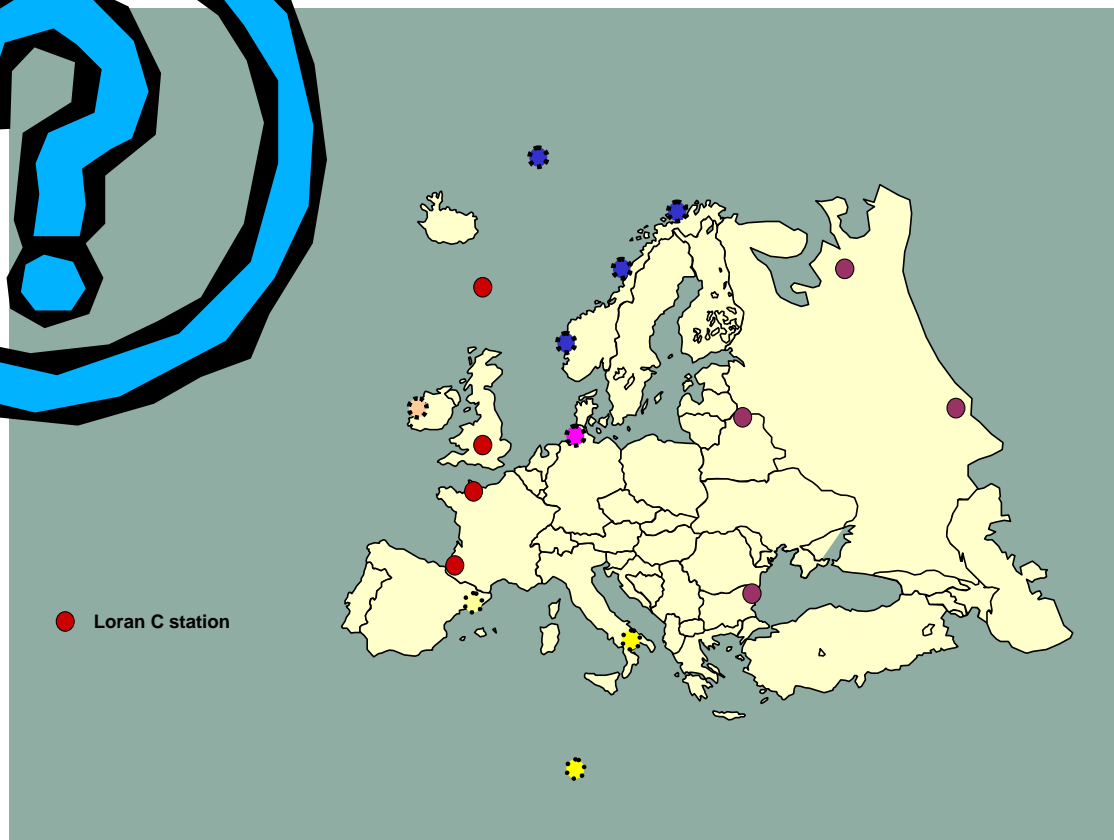


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## What is France trying to do ?



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# The Ministry of Defence statement

## The Ministry of Defence foresee:

- There is a need for LORAN C at least until 2015
  - ✓ France will maintain Lessay, Soustons, and the CCB
- The biggest coverage is to be maintained
  - ✓ France will pay to allow Ejde to stay on air after 1<sup>st</sup> January 2006
  - ✓ France try to convince Norway to keep their stations running
- Extensions of the coverage will be of great interest
  - ✓ France help UK for the new station in Rugby
  - ✓ France is trying to work with Italy



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# The Ministry of Transport, Infrastructures, Tourism and the Sea plan

The Ministry of Transport, Infrastructures, Tourism and the Sea foresee

- There is a need for a back up for GNSS (GPS today, GALILEO tomorrow) (i.e : VOLPE report)
- The quality of the data delivered for the positioning of ships must be guaranteed, for VTS, AIS uses
- Loran C is part of the French maritime radio navigation plan (1997)

The Directorate for Maritime Affairs support the Defence ministry actions



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## Actions about the coverage (1)

- France has signed (7 March 2005) a MoU with UK, allowing UK to use the Loophead transmitter, never installed, and implement the new Rugby station
- France will sign in the following days a MoU with Denmark, allowing the Ejde (Faroe Islands) station to stay on air, the expenses been supported by France
- France try to find a solution to maintain the Norwegian Vaerlandet station
  - ✓ Making Norway realise they were destroying the European policy
  - ✓ Asking UK to pay for the loan of the Loophead receiver



## Actions about the coverage (2)

- France has been acting to persuade Germany to decide to keep the Sylt station available for Loran purposes
- France try to work with Spain
- France try to put in application the document signed in 2002 with Italy (who owns two stations, in Seilla Marina and Lampedusa, of air), making recommendations to conduct studies on the interest of Loran C for maritime safety



## The main problem : the Norwegian stations

In the letter dated 1 July 2005, answering to the French proposal dated 29 June 2005, Norway said :

“Norway will need a specified proposal, both on how to finance and how to administer the running of the Vaerlandet Loran-C station after 2005”.

France understand that for Norwegian ministries, it is important to save money in their own domain, but we think that we have to take a broader view of the problem



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## Future of the ERNP

Mr Nills Weller, that became only the responsible desk officer for the ERNP on 1 July 2005, indicates:

- that the Commission will not work for the moment on the ERNP, and this until end 2005/beginning 2006, because they need all their available resources to finalize the Galiléo project in order to meet the deadlines (which are end of 2005).
- that the information contained in the report from the Helios study on the backup function for Loran-C matches quite well the Commission's view

>> For France, until the EU has not developed its final ERNP plans, no irreversible actions in the Loran-C provider infrastructure should take place



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## Consequences of Vaerlandet closing down

The continued operation of Vaerlandet will maintain:

- the coverage of Britain, especially Scotland and the Scottish Islands, due to its major contribution
- the benefits bought by the UK by the UK Rugby initiative
- the synchronisation of the Ejde station independently of GPS

If the Vaerlandet station is switched off at the end of 2005:

- a number of European companies will experience the negative business effects of the closing down of the stations
- the weather forecast will be affected in Europe, because of the lack of data about wind speed



## Consequences on the ERNP of the Norwegian initiative

The ERNP clearly states :

“The EU should work with member and associated states to investigate the Europe-wide provision of Loran C services in order to secure both transport and wider socio-economics benefits delivered by Loran C”

So, closing the Norwegian stations will be a non-friendly action towards European policy :

- This unilateral decision will prevent the Commission from implementing the recommendation of the ERNP study
- It will make impossible for the UK, having the EU presidency until the end of 2005, and acting as support for Austria during the first part of 2006, for example to bring during this period the ERNP issue during a Transport Council Meeting



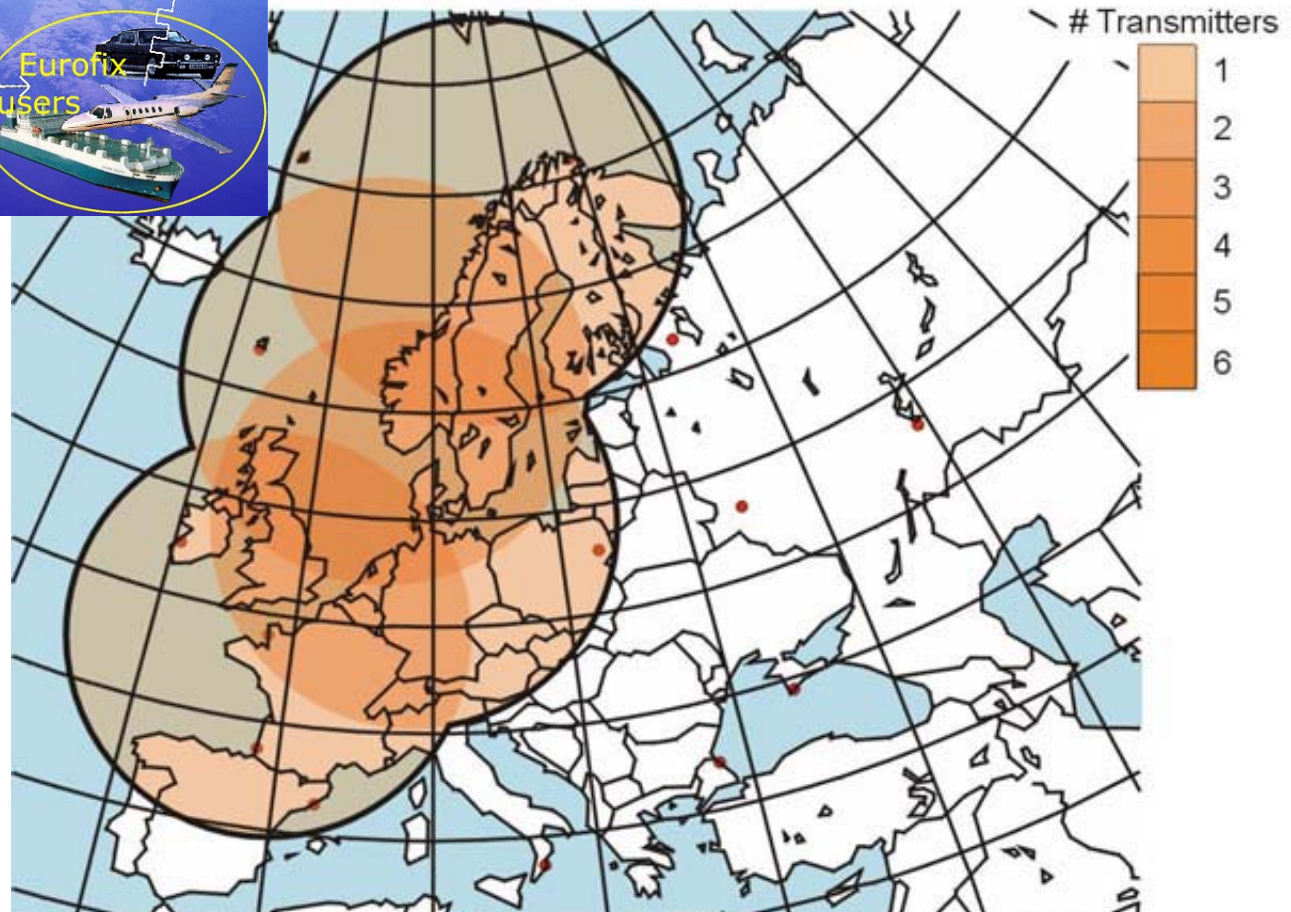
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**The Eurofix coverage will disappear**



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## Conclusion, actions ?



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## French position (GNSS/Loran C User's Information day report)

- The vulnerability of the GNSS signal is certainly a reality and its widespread consequences across all areas of life lead inevitably to questions concerning the implications of its non-availability for civil users
- If the technical and economic performance of Loran-C as a backup to GNSS is confirmed, it is essential that governments and the Commission take decisions that ensure the continuity of this service in Europe, even if under normal circumstances it is disregarded by users
- It would be regrettable for Loran-C to be lost in Europe if as a result mass-market applications such as road tolling, recovering stolen vehicles, and tracking dangerous cargoes, had to be abandoned due to the lack of viability



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## Some proposed actions

It is critical that steps be taken immediately to prevent stations closing down and dismantling, to delay the closure for a minimum period of 12 months to allow that debate and decision process to run to completion. Actions at the political European level are absolutely necessary

Governments have difficulties to provide a way ahead. Is this the moment for an alternative operator to emerge and take the stations over ?

The aim of the 1 July 2005 Information Day in Paris was to focus on applications, and so to facilitate. We have to continue to facilitate the users needs expression

But we all know that it takes time (see the difficulties of the German project)







**Thank you for your attention.**  
**Questions ?**



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