

SUMMARY

This study is one of the ten area studies within the ACTIF project carried out between October 2000 and May 2001.

The scope of the study focuses on geo-referenced information and the difficulties linked to its use in Intelligent Transport Systems: qualitative defects, exchange difficulties and consistency between different sources, etc.

Like all ACTIF studies, this one was split into 3 phases: assessment of the current situation (phase 1), analysis of ACTIF and solutions study (phase 2), feedback on the architecture and recommendations (phase 3).

Phase 1 reveals both the transversal nature of geo-referenced information (present in many functional areas), and the under-developed provision for this in the framework architecture model: as the functions linked to its use (“pure mapping”, but also position determination in terms of information exchange) are not yet clearly defined, they are to be found everywhere, very dispersed, and in a very diffuse way. Much effort (standardisation, European projects) has been made to try and to focus on its use where its effects were found to be most serious, but this effort lacked co-ordination, and has only been applied in restricted areas without considering the global nature of the problems encountered. Different bodies (ECS, ISO, OpenGIS, etc.) have approached the problems of geo-referencing, but more general comprehensive solutions, bringing global coherence, are still lacking. In addition, there is currently an Internet and mobile telephone applications boom, boosted by many private initiatives which are attempting to impose their solutions on the promising future offered by “geo-positioning” services.

Phase 2 confirms the impression gained in phase 1: for the KAREN European framework architecture, it was not thought worthwhile to identify the functionalities linked to geo-referenced information, despite their importance. Traces of its use are found in many functional areas, but none of the architecture’s components uses all or part of these functionalities as such. Thus there are no mapping representation or geo-coding functions to be found. Similarly, it was not thought worthwhile in KAREN to guarantee a certain geographical consistency between the System DataStores, although only a minimum number of rules would be required to exploit localised information. In light of these shortcomings in KAREN, several areas were studied before concluding with the need to strengthen the role of “*Related Road System*” actors, who should now exchange localised information using dynamic positioning principles as outlined by ILOC in Europe and/or LRMS in the USA.

Phase 3 expresses the preceding conclusions as both general recommendations and as application examples. The recommendations lay down guideline design principles, some techniques and projects to be specifically watched over, and/or to be promoted (even supported) if necessary:

- Mapping out those Systems using a single positioning system
For systems using several positioning methods, this implies splitting the system or choosing a single positioning system.
- Generalising the use of vectorial mapping databases
This is one direct consequence of the exchange based on enhanced X-Y co-ordinates, and associated geo-coding functions.
- Speeding up ILOC work
- Avoiding proprietary mapping technologies
- For exchanges with the publishers, promoting the use of GDF format
- Liaising with, then launching a “DELFI-like” project for public transport information
In France, this could be achieved within the framework of initiatives such as PREDIT or PREDIM.
- Observing and assessing the private initiatives
Amongst the interesting initiatives are: LIF, SVG and GML (mapping publication over the Internet).
- Launching an opportunity study of the implementation of on-line geo-coding services or, less ambitious, a gazetteer.

As for the application examples, they validated that our recommendations for this ACTIF study were indeed applicable in different areas of activity, and that standardisation work required on ILOC should be sufficiently general as to be valid and consistent for every ITS application.