

GPS FOR THE DEVELOPMENT OF MAPPING INFRASTRUCTURE

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ABSTRACT:

The role of satellite positioning technology in delimiting parcel boundaries is not a new subject, although recent GPS developments have made it much more accessible and affordable in both developed and developing economies. However a concern that has been gaining ground only recently in developing countries is understanding and creating the institutional environment within which the technology must be deployed. A significant step towards this direction was made through a Canadian-Argentine R&D project, led by the University of New Brunswick and the Universidad Nacional de La Plata and funded by the International Development Research Center (IDRC) in Ottawa (Canada).

This work summarises the current state of the project which goal was to develop, promote and eventually commercialize a system for the acquisition and management of position information, as a first step towards the implementation of an innovative geodetic infrastructure of the Active Control System type, in support of cadastral and other positioning applications in Argentina and the Southern Cone. The system supports real time and post-mission positioning and a variety of data distribution functions. The prototype system was developed in Argentina, thereby ensuring local system "ownership", sustainability and upgradability after the ending of the project.

The system was tested at various stages of its development, in three Argentine provinces (Santa Fè, Chubut and Buenos Aires) in cooperation with the local user community and the "keepers" of the existing (old) geodetic infrastructure, thereby involving the potential client in the system design. During tests and demonstrations, the economic benefits of the new concept were emphasized.

During strategic workshops, the "keepers" of geodetic infrastructure, in federal and provincial organizations, became aware that the implementation and delivery of an innovative infrastructure is a brand-new process that has to be efficiently managed. The recognition that optimal use of the innovative infrastructure design may entail deep changes, to the structure and mandate of these organizations, has initiated a process of "management of change" at the highest level, both federal and provincial.