

Innovation and development of specialized applications occurs mainly in the private sector, which tends to attract the most talented professionals. Industry observers believe that the private geomatics industry employs about 3,000 people. According to one expert, in Mexico there are only about 250 geomatics specialists with advanced skills.

Government jobs in this sector require at least a bachelor's degree, usually in engineering or geography. Private sector employees tend to be less experienced: students of architecture, topography or computer science are often recruited. Technicians are usually taken on as apprentices with a minimum Grade 12 equivalent education. The top specialists in both sectors have postgraduate degrees, usually from Europe, Canada or the United States, but few of them have experience in advanced systems integration or specialized application development.

TECHNOLOGY

It is useful to distinguish between two types of geographical information systems (GIS) technology. The first can be referred to as product technology. This is the technology embedded into the product, that affects how the customer will use it. The second is the process technology used to produce the product itself.

The Mexican market relies almost entirely on foreign product technologies. Industry participants are generally aware of emerging technologies and obtain them as needed from foreign suppliers. As a result, there are few product technology limitations, other than cost. On the other hand, end-user requirements often do not call for state-of-the-art technology. For example, some smaller companies are still using AUTO-CAD software. Successful foreign suppliers adapt their technologies to these varying requirements, to make sure that their product technologies do not exceed customer needs.

On the other hand, process technologies are, generally, poorly developed in Mexico. This is partly due to the lack of experience of Mexican companies, many of which have been created during the past two or three years.

According to officials of *Banco Nacional de Obras y Servicios Públicos (BANOBRAS)*, National Bank for Construction and Public Works, ARC-INFO is the most popular software package. Standard Queries Language (SQL) is also widely used to develop applications. SQL is distributed by *Ingeniería Sistemizada (VIMEX)*, and ARC-INFO by *Sistemas de Información Geográfica (SIGSA)*. A Spanish-made package, distributed by *Estudios Topográficos de México (ESTOMSA)*, has also been successful, partly because of its use of the Spanish language. Although AUTO-CAD has been popular in the past, it is now being displaced by more sophisticated technologies.