

GIM INTERVIEWS JACK DANGERMOND, PRESIDENT AND FOUNDER, ESRI

New Ways of Managing Organisations

The benefits of using GIS to organise and manage organisations include “cost savings resulting from greater efficiency, better decision-making, greater communication, and better geographic information record keeping” says this month’s interviewee, Jack Dangermond. “Geographic information systems are transforming the way that organisations manage their assets, serve their customers/citizens, make decisions and communicate.” Dangermond also addresses the surveyor, asking him or her to consider becoming a “Beta site for the Survey Analyst”.

For a couple of years now Survey Analyst has been being used as an extension to ArcGIS. Can you elaborate on its acceptance among surveyors and other users?

Survey Analyst was initially designed to address a very specific set of requirements for survey measurements and data modelling associated with the cadastre. We have been successful in this area, notably in Belgium, where they have six hundred Survey Analyst licenses. While we have addressed this particular niche of the market, we are getting ready to release our next generation of cadastral technology, which includes a couple to an editor. This release is built on ArcGIS 9.2 and is designed to deliver a complete survey cadastre workflow. The technology will allow our users to improve the accuracy of their cadastral fabric incrementally. It will be particularly useful in many areas. Following the release of the cadastral editor we will turn our efforts to the specific survey functionality. We would like those users who are interested to please consider becoming a Beta site for the Survey Analyst and attending the Survey and GIS Summit in August in San Diego, California. Just prior to the conference we will be hosting a Survey Analyst Beta workshop in our offices in Redlands.

With Survey Analyst you enabled intertwining of the surveying world with GIS: what about the world of photogrammetry? For example, in the first month of 2006 the Japanese launched a satellite that is able to acquire very high-resolution stereo imagery (2.5m panchromatic) for mapping purposes. Could photogrammetry and GIS be integrated as you did with surveying?

ESRI has been working with the leading companies in the photogrammetric community to ensure tight connectivity between GIS and photogrammetry. This connectivity is important to a number of our key users who need to capture information from stereo imagery and bring it directly into the geodatabase. Since the geodatabase is then used as the basis for dissemination to a broad community of users, we’re seeing a reduced latency from data capture to exploitation. We believe that connections between photogrammetry and GIS will become still tighter. A photogrammetric information system would see the geodatabase being extended to handle photogrammetric support data; component business logic being used to create, maintain and analyse photogrammetric data, and presentation layers enhanced to display stereo imagery. As these specialised information systems emerge, users will benefit from seamless workflows, the same type of workflows that benefit the users of Survey Analyst.

Since its launch in June 2005 Google Earth has attracted much attention, not only from casual users but also GIS professionals. How do you think Google Earth will change the use of geo-information and GIS?

Google Earth has rapidly increased public exposure to geography and the use of geographically linked information. It’s a great application for citizens to visualise geographic images and engage in simple “geographic tagging”. But Google Earth doesn’t offer GIS professionals the rich data and robust platform that they need for publishing their knowledge. GIS Web services are just beginning. Google Earth is appealing and it provides the public with a new sense of what digital geography is like. This exposure will make citizens more spatially literate and will likely increase the demand for true GIS capabilities. ESRI will release its ArcGIS Server technology, which will allow our users to serve their own images and maps using similar, simple-to-use and exciting user interfaces.

Some say that GIS is not actually going “mainstream” because the marketing focus is too orientated towards specialist groups. What would you say to these sceptics?

There is a growing interest in and awareness of the economic and strategic value of GIS within organisations and our society in general. It’s hard to say whether this is because there is more standards-based technology or just because of the greater awareness of the benefits demonstrated by GIS users. Nevertheless, enterprise solutions and IT strategies that include GIS are growing rapidly. We see it in our business growth and the interest being shown by a whole new community of users. GIS is increasingly being implemented as enterprise information systems. This goes far beyond simply spatially enabling business tables in a DBMS.

What are the benefits of GIS for enterprises?

Geography is emerging as a new way to organise and manage organisations.Â Just like enterprise-wide financial systems transformed the way organisations were managed in the 60s, 70s and 80s, similarly geographic information systems are transforming the way that organisationsÂ manage their assets, serve their customers/citizens, make decisions and communicate. GIS information products are now being used to communicate among senior administrators and executives at the highest levels of government, as well as in the corporate world.Â GIS is providing a visual framework for conceptualising, understanding and prescribing action. The benefits of GIS are generally reflected in a number of ways, including cost savings resulting from greater efficiency, better decision-making, greater communication and better geographic information record keeping.

The design of a DBMS for a particular application is always a difficult and time-consuming activity. What is your philosophy on this: should the particular user design himself a database or should vendors do this by designing and offering DBMSs for specific applications?

I don't think that there are any hard and fast rules on whether the user or vendor should design a geographic database. Whoever does it should exercise due care and attention, because this is a critical part of implementing any information system and GIS is no exception. Like DBMS, ERP, CRM and other IS software systems, GIS includes a core data-model that acts as a foundation design pattern or template. In the case of a GIS this is the geographic data types (points, lines, polygons, annotation, addresses, etc.) and the geographic database rules and relationships (range domains, coded values, networks, topology, etc.) A good project data-model will work with the grain of the core data-model design pattern to ensure good performance and minimise customisation efforts. To assist users in closing the gap between their data-model and the ArcGIS geodatabase-model, ESRI has partnered with key domain expert groups (e.g. in water resources, utilities, mapping, addresses and natural resources) to create a series of domain-specific data-models which establish best practices and can speed up implementations. The data-models are freely downloadable from the website <http://support.esri.com/datamodels>.

<https://www.gim-international.com/content/article/new-ways-of-managing-organisations>
