



COVER SHEET

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Editorial Comment for The Queensland Surveyor Journal April 2002, by Robert Webb – QUT Surveying

Welcome to the April edition of The Queensland Surveyor journal

This issue contains a full and well-rounded composite of activities and events that have been happening within and outside the institution recently.

The Queensland Surveyor is published bi-monthly for the interest and benefit of members and others of the Queensland Division of the Institution of Surveyors, Australia.

In This Edition

In this issue the feature articles relate to broad topics on Orbits and Gravitation determination, along with the complimenting History Corner content of Kepler life; Spatial pattern recognition in the GIS environment.
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GIS ready to explode?

In going over previous Qld Surveyor issues to come up with this year's big industry questions, I was struck by a repeating theme regarding the "break out" of GIS or spatial technology into the mainstream. For years we've followed different threads to the same conclusion: It's only a matter of time before the GIS industry explodes.

Amir D. Aczel put this pending technological takeoff in perspective in the book "*The Riddle of the Compass*." The compass was invented in China as early as the first century A.D., but it was mystical, rather than navigational, properties that were of interest to the Chinese, as they used the device in the practice of "*feng shui*." It wasn't until the 12th century that the idea of the magnetic compass became widely known, and the Italians implemented the device for maritime navigation.

The technological revolution brought on by use of the compass for navigation led the way to charts and accurate maps and paved the way for the Great Age of Exploration, when Columbus, Magellan and other navigators opened trade routes to places previously inaccessible. The world had to wait many centuries for this invention to take hold, but when the conditions were right, the technology changed our history.

This year, more than ever before, a multitude of drivers put the spatial technology industry on the brink of a similar revolution.

GIS has had a significant effect on many aspects of society. Resource industries, utilities, cities, the sciences and commercial corporations are on well-defined paths that make GIS an integral part of their disciplines.

Similarly, GIS is an enabling technology for economics, a discipline that pervades all sectors of our lives and influences how we as a society make decisions. The last few years have raised ever-increasing public awareness about the quality of Earth's environment. Now science is challenging the traditional economic paradigm, calling for an ethic that measures ecological policies at the same time as trade, energy, economic, agriculture and other policies.

A New Economic Paradigm

Such a paradigm was dubbed "sustainable economic development" by the Brundtland World Commission on Environment and Development in a 1987 report, *"Our Common Future."* The commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The report made an extensive assessment of society's broad failure in dealing with ecological and economic interdependence, citing how ecology and economy are becoming interwoven locally, regionally, nationally and globally.

To be applied successfully, sustainable development must support the perspective that a healthy environment is essential for a sound, prosperous economy. Such a focus views society, economics and the environment as

essential elements of a mutually supporting ecosystem. Each element must be considered prior to decision-making.

GIS, with its ability to integrate various social, economic and environmental factors in decision-making processes, provides a practical tool for achieving the transition to sustainable development. The technology's advanced spatial data analysis capabilities, combined with remote sensing imagery and advanced Global Positioning System, can provide effective solutions on a grand scale. Moreover, a firm institutional commitment needs to be in place, along with the infrastructure needed to support that commitment.

Conclusion

The editorial committee would also welcome more material from members including short letters, comments or photographs that would be of interest to other members of OUR Profession. On behalf of the editorial committee, I trust members and others will have an entertaining and informative read with the April 2002 edition of **The Queensland Surveyor**.