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Towards geoscientific data integration: Challenges, Approaches and Implementation

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Although the use of GIS technology in the production and maintenance of geoscience data is well established, translating geoscience data into a business requirement remains a challenge. The geoscience domain especially is a complex environment to work in and involve specialities beyond the capabilities of individual specialization.

The mandate of the Council for Geoscience (CGS) is defined by the Geoscience Act (Act 100 of 1993) and it's more Amended Act of no. 16 of 2010. It requires the CGS amongst other functions, to be the custodian of geoscientific information in South Africa. To fulfil the requirements of the act, the CGS continuously embarks on the capturing, archiving and the retrieval of geoscience information on a national scale.

Although the CGS has an established centralized database, the culture of data ownership remains an issue. Data are sitting in different business units sometimes inaccessible to others. Currently no direct integration exists between systems due to the complexity involved in handling each system.

Collecting field data is expensive. A rock sample may only occur as a point in a database with a string of attributes attached to it but the value of the point lies in the managing and sharing of the information to a wider community and in the product derived from that feature. To make such features searchable and viewable to a wider community will translate the data immediately into a business asset. This process not only entails the merge of the different technologies but also necessitates proactive and reactive management strategies.

This paper will highlight 5 key areas in which GIS can support geoscience business. It will draw on research done internationally and seek out a solution with the highest probability of success.

