IGSN - Status and Future Development

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IGSN is more than another label; its power lies in creating an internet representation of a sample that can be linked to the data that were derived from it and to the literature where the sample and the data are interpreted.

Samples are central to geology

Samples have always been at the heart of the geological sciences. Compared to the infrastructure built-in recent years for literature and data, the availability of sample information on the internet still lags behind. Samples are only valuable within their context: without unique identification and documentation, a collection of samples is little more than rocks in a box.

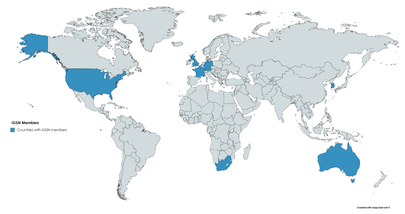


Figure 1: Map of countries hosting IGSN Agents. IGSN is well on its way to becoming a global organisation for persistent identification of physical samples.

The International Geo Sample Number (IGSN)

The International Geo Sample Number (IGSN) is designed to provide unambiguous globally unique identifiers for physical samples. In 2011 the IGSN Implementation Organization (IGSN e.V.) was founded to build the infrastructure and the governance framework for the persistent identification of geological samples. Since then the organisation has grown to 23 members on five continents, and more than 6 million samples have been registered. Among the members of IGSN government geological surveys, research institutions, and universities.

More than 6 million IGSNs have been registered to date!

Future Developments

The recent expansion of the IGSN membership and technical advances in information technology will require significant updates of the IGSN technical architecture to keep pace with the growing demand. The current business model will also need to be reviewed.

IGSN e.V. works closely with other stakeholders in the field of using persistent identifiers in the record of science. The IGSN technology stack is closely aligned and interoperable with DataCite. The use of IGSN is recommended by the Coalition for Publishing Data in the Earth and Space Sciences (COPDESS).

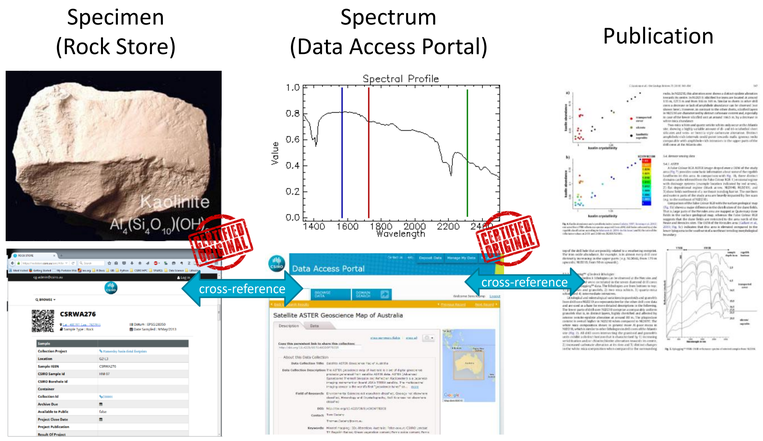


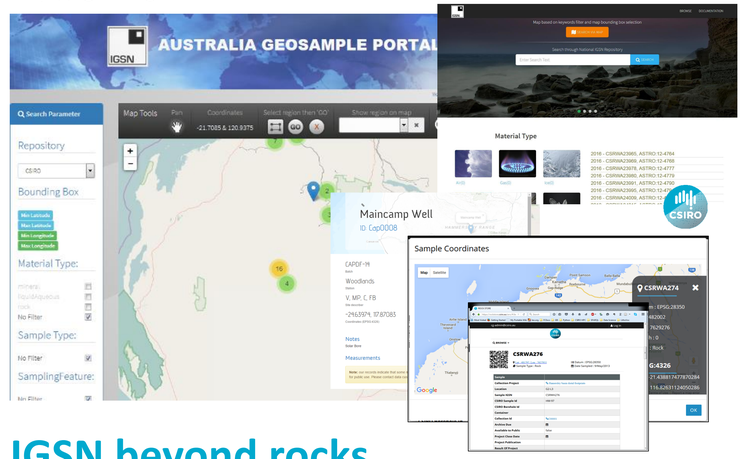
Figure 2: Using persistent globally unique resolvable identifiers allows machine actionable linking between samples (IGSN), data derived from samples (DOI) and literature interpreting the data (DOI). The links carry a formal description of the nature of the link, thus facilitating more advanced semantically aware applications.

IGSN is more than another label

The power of IGSN lies in creating an internet representation of a sample that can be linked to the data that were derived from it and to the literature where the sample and the data are interpreted. This is made possible by using the same technological base as it is used in Digital Object Identifiers (DOI), thus making the two systems fully compatible. Also, DataCite DOI and IGSN are recognised as related identifiers in both systems, thus enabling machine-actionable cross-linking between samples and data.

Global Catalogues

Until recently, samples were catalogued locally, if at all, but federated catalogues on a global scale were missing. The IGSN system architecture and catalogue metadata schema allow catalogue information to be harvested and several catalogues to be compiled into one. A proof of concept demonstrator has been implemented by the Australian IGSN Agents. The Australian IGSN Portal Demonstrator is available at http://igsn.org.au.



IGSN beyond rocks

The application of IGSN is not limited to geological materials. Earth sciences themselves have become more interdisciplinary over time. It is, therefore, no surprise that IGSN have been applied not only to geological materials but also to water and plant materials. In addition, IGSN have been applied to extra-terrestrial materials from NASA's Apollo Mission and other NASA missions. The IGSN governance model and technology stack can be made interoperable with existing PID systems and transferred to other disciplines dealing with physical samples.

FOR FURTHER INFORMATION
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REFERENCES
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