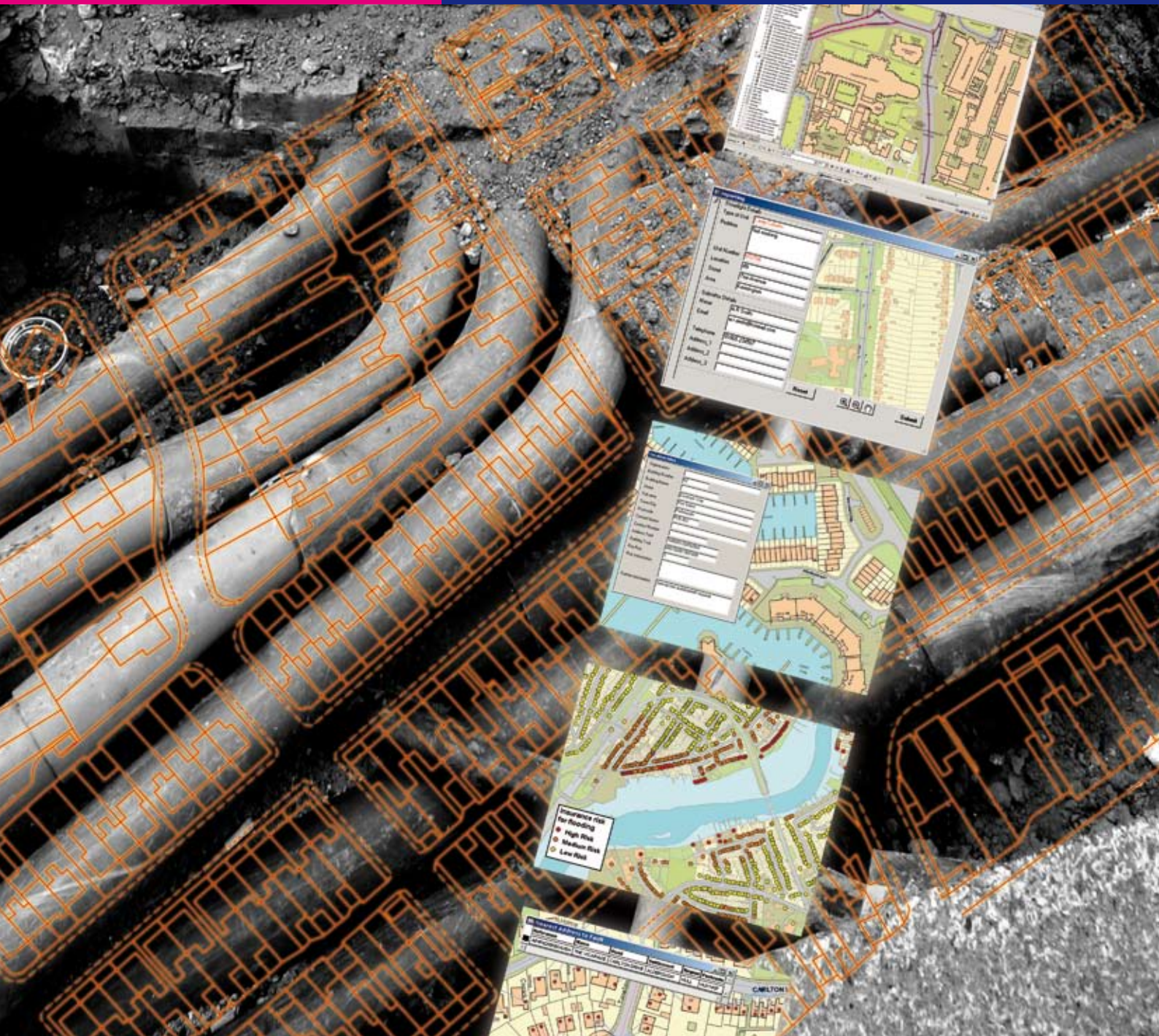


Geographic information strategy 2006–08



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Ordnance Survey benefits Great Britain as both the national mapping agency and a self-funding government department. We are responsible for creating and updating detailed records and attributes of the topography of the entire country, from which we and our partners produce and market a wide range of geographic information (GI), digital map data and paper maps for business, leisure, educational and administrative use.

GI is any information about an object that has a geographic reference such as the population of a town, the whereabouts of an address, the optimum route in a satellite navigation system or the diagrammatic extent of flood risk for insurance purposes.

Ordnance Survey has provided reliable, detailed GI in the form of paper maps for more than two centuries. In recent years, the increasing use of computerised technology has offered us the chance to build on our traditional cartographic skills. We are bringing GI into the everyday realm of information technology.

This document outlines our strategy to continue to provide the underpinning foundations on which Great Britain's GI infrastructure and market can develop in a coherent, rational way – not just for the benefit of Ordnance Survey but for all stakeholders. It is based on a business plan up to 2008.

Background – a rapidly changing world

There is a growing need across many different kinds of organisations to share information about events, people, places and occurrences. Indeed there is now a widespread general level of expectation to do this. This approach is increasingly being driven by government policy and operational needs. For example, the Traffic Management Act 2004 requires the sharing of information across and between utilities, contractors, local highways authorities, the Highways Agency and, often, other stakeholders. Increased data sharing is also envisaged under the Water Framework Directive, e-conveyancing and National Statistics programmes.

However, the move from paper to digital mapping and now beyond to GI has exposed a lack of interoperability across datasets developed at an organisational

level to meet an immediate operational use.

In spite of the growing volume of data circulating in digital form, there is still a broad lack of responsibility regarding how this can best fit together and work effectively. This often results in significant data duplication and incoherence, even at a national level. Examples include the many different datasets referencing addresses, street databases and land parcel information.

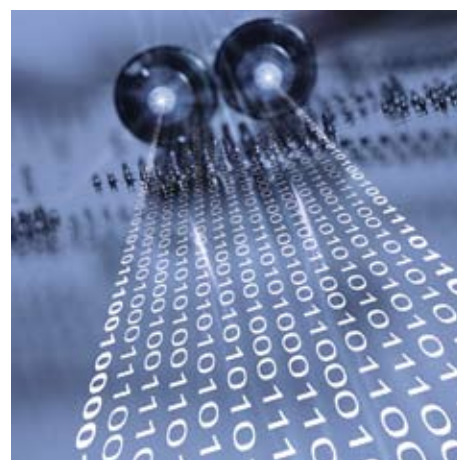
We recognise that for most organisations, the use of GI is not the main business process. It is more often a means to an end in delivering a user's core activities, whether they are a local authority, a utility company or a private-sector service provider.

GI is rapidly becoming integrated with existing corporate and consumer information systems. The adoption of GIS in a back office where specialist software and skills are required, although valuable in certain circumstances, can often inhibit corporate take-up and widespread application. Successful adoption within integrated information systems significantly maximises use and return on investments to support maintenance and further data improvements.

Dudley Metropolitan Borough Council (MBC) offers a prime example of this. Managers there have implemented a strategy to incorporate their GI applications in mainstream council functions. By reusing existing information and cross-referencing data, they are now able to centralise key address and geographic datasets and make these available to several thousand users across most service departments in the Council.

GI is about information and services. Such services may or may not always require maps as we traditionally think of them. What is vital is that data can be linked to support reliable automated services. There is growing recognition of the value of such an approach, although adoption of new working practices and changes to production systems will in most cases take time.

Within government and industry there are shortages in modern GI skills. People who can couple such skills with experience of mainstream information systems are even more scarce. This often results in staff with little or no GI experience being called on to develop specialist applications or



integrated services that truly exploit the power of geography.

Standards, whether local, global, de facto or de jure, are influencing GI development. Organisations such as OGC (Open Geospatial Consortium) and ISO (International Standards Organisation) are having a growing impact in different ways across the international community.

European Parliament legislation aims to define technical and licensing policy across member states in the coming years. It is not clear at this stage how this advances true applications in the use of GI in the UK, but we can expect greater standardisation and much more data sharing.

Influencing and enabling

To continually adapt and, where appropriate, lead in both the market and industry as described above, Ordnance Survey will take a positive and proactive position in supporting the widespread adoption and maturing use of GI.

Ordnance Survey is doing this by providing a key component of the national georeferencing infrastructure through the delivery of a single consistent base of OS MasterMap®.

This is a new generation of national, intelligent, large-scale reference information capable of enabling applications for users seeking enterprise Internet and mobile solutions. It is built on the systematic assembly and maintenance of around half a billion topographic features that make up the landscape of Great Britain. OS MasterMap supports the referencing of users' geographies and application information in a consistent way. It is already helping to integrate a vast range of disparate information held by government and business.

OS MasterMap is a seamless geographic database, compatible with accepted web standards and ordered through a web interface.

To maximise user benefits for all stakeholders of a national reference base in linking different kinds of information together, it is crucial for agreed and workable standards to be established and adhered to. OS MasterMap is therefore engineered to the Digital National Framework, a set of enabling principles and operational rules that underpin and facilitate the integration of GI from multiple sources.

DNF began as a result of the need to support a national georeferencing infrastructure for Great Britain. Over time it has evolved with partners in government, utilities and the private sector and is becoming the de facto standard for interoperability. DNF offers a way forward for better integration, greater consistency and coherence. It supports the accelerated transition of GI towards mainstream information systems and has the potential to become the key enabler to link business information with geography.

Already, civil engineers and surveyors at the ICE/ICES Geospatial Engineering Board have called for the locations of millions of underground pipelines and cables to be captured to DNF standards and principles, so making it easier to share information. The Dudley MBC example given above also employs the DNF model.

However, further work is required to satisfy and influence the take-up of integrated GI in particular applications such as transport and navigation, asset management, risk management, and crime and security policy.

These application areas cross market sectors and different kinds of organisations, both government and commercial. Equally, several datasets may commonly be used in a variety of application areas. They also require diverging themes of information to be operationally successful. These themes need to be truly interoperable to support users' needs in sharing information about a common location.

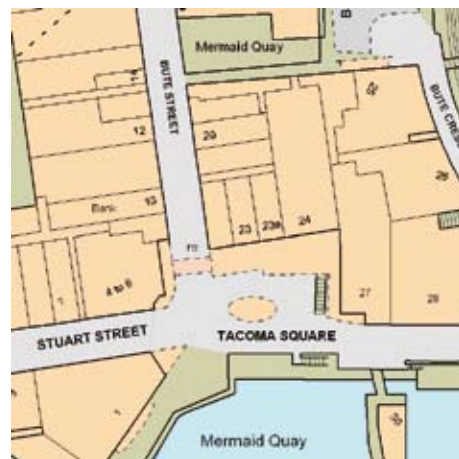
Focusing on customers

Ordnance Survey will continue to employ innovative ways to strengthen the adoption of interoperable and intelligent information.

A key goal is to develop a better understanding of the aims, objectives and applications of our users and customers to further refine the data and information we supply and thereby make it easy to adapt, use and exploit, not only today but in 2008 and beyond.

We will take forward our strong support for the DNF initiative in collaboration with all sectors of the information industry.

We will work with others on further development of DNF principles by proving, developing, promoting and publishing



methods and best practice. In hand with DNF, we will continue to adopt and influence the development of appropriate UK and international standards, de facto and de jure.

We will also seek to influence skills development through leadership and development of best practice in data management. One example will be through our participation in the National Underground Assets Group (NUAG).

We recognise the need to balance our commercial remit as a public sector Trading Fund with national interest investments. In so doing, we can provide the key reference components to maintain the foundations of the national GI infrastructure.

We will continue to work closely with key government agencies on data and information integration. This will include initiatives on addressing, land and property information, environmental information, asset management, and developments at the European level.

We are creating and developing the National Geographic Database from which features can be selected for use in a direct or derived data application. The aim is to provide a consistent, well maintained, high-quality and fit-for-purpose topographic base to underpin all other geographies and objects – from road networks and land and property information to flood risk models and population and employment change statistics – whoever is responsible for these datasets.

In striving for greater electronic delivery, we will increasingly exploit web services to serve data directly to others' databases and applications. We will seek to minimise the need for customers to manage large data holdings.

We are investing in a first-class, 'always on' service mindset and a supporting technological infrastructure. In the supply, service and support of published products we will continue to develop a cultural shift in becoming truly customer-focused.

We aim to position Ordnance Survey data and information as a key enabler to support new business development in the information industry at all levels. We

also strive to be a thought leader, playing a central role in promoting geographic information take-up and best practice across the information industry.

Detailed activities under this outline strategy will effectively shape the way we collect, manage and make our data available in the future. They will support the development of a feature catalogue to underpin the development of the database as well as our approach to metadata (discovery, dataset and object levels), data quality, derived/multi-resolution data and the management of intellectual property rights in GI databases.

The limited range of skills in the industry is a barrier to modern GI evolution, so we support programmes to attract new talent. We will work with others, such as the Royal Geographical Society, Association for Geographic Information and university researchers, and continue with programmes such as Free maps for 11-year-olds.

Summary

Data linking is not just good practice. It is an essential component if the returns on investment in datasets are really going to pay back through flexible automated services, adoption within corporate information systems and exploitation by commercial channels.

The demand for electronic data exchange and sharing across applications is growing, and the existing GI infrastructure in Great Britain is going to have to develop further to meet these changes.

This implies greater cooperation and collaboration with several organisations to provide the definitive infrastructure and underpin the applications areas for the future.

All of this means that we will employ a single, professional, world-class data management regime right across Ordnance Survey.

We will continue to collect, manage and supply GI based on customer need and our unique role of maintaining the national georeference base for Great Britain. We will champion the benefits our GI brings in helping customers to execute the tasks and objectives of their business.



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