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*Optimising your business benefits from locational information*

## **An Assessment of the Size and Prospects for Growth of the UK Market for Geographic Information Products and Services**

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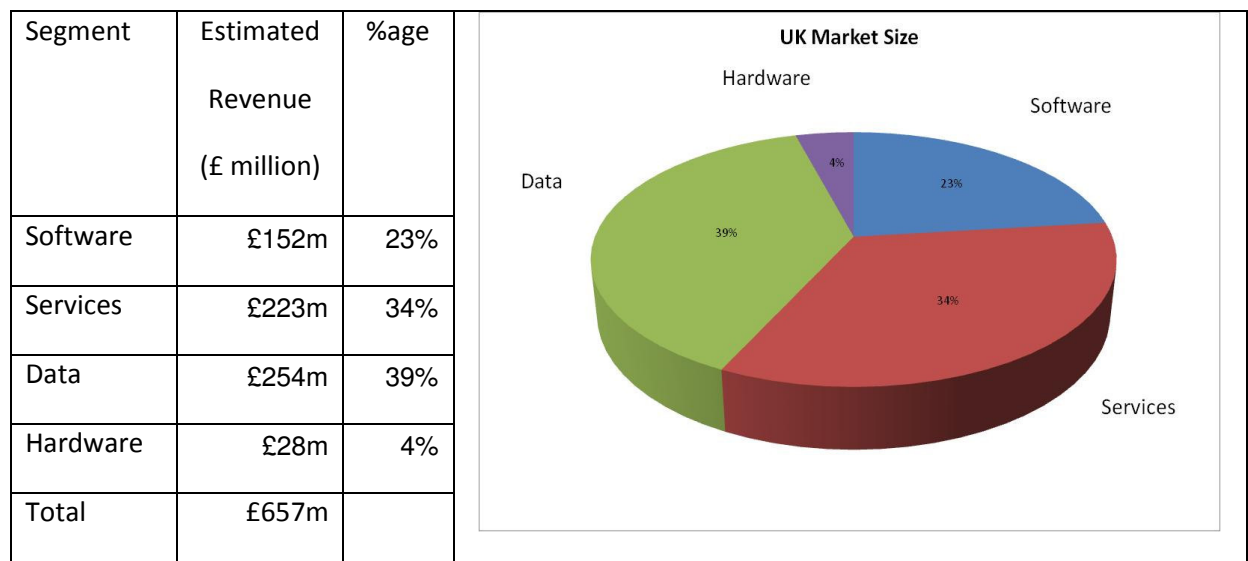
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## Executive Summary

This report provides an assessment of current UK market size and growth potential for geographic information products and services. It is based on information drawn from publicly available sources, interviews with industry opinion formers and informally gathered information from the authors' other contacts.

It is a "supply-side" assessment. It deliberately does not try to value the human resource capital in customer organisations. Neither does it attempt to value the contribution of the GI industry to the UK economy.

An extensive market survey has led us to assess the market size in calendar 2007 at £657m, the breakdown between segments being as illustrated below. This figure we believe to be accurate to +/- 10%.



In terms of future growth prospects, the major market drivers include the Integration of GI into the IT mainstream, emergence of consumer market geospatial tools, such as Google Earth, and in the public sector, initiatives such as INSPIRE and the Location Strategy. Environmental concerns and changing patterns of social networking will also be significant.

It is particularly difficult to predict growth figures in the current economic crisis. However, we believe that the *relative* performance of various industries is likely to reflect our findings. They suggest that future prospects are very much market dependent:

- The traditional engines of local and central Government are unlikely to grow in real terms and may even go into reverse;
- The utilities markets is going through a welcome “spike” of activity driven by the need to replace outdated technology and regulatory pressure but is unlikely to be sustained in the long-term;
- Commercial markets, particularly transport and insurance, still have considerable potential provided that individual projects can demonstrate a strong short-term Return on Investment.
- Construction and land and property, may in the medium to longer-term recover, but the collapse in the housing market will make these markets very tough in the near term.
- The strongest area of growth will be in consumer Location-based services but it is likely to benefit only a relatively small number of big players and some innovative start-ups.

## **1. Introduction**

### **1.1 Aim of this document**

Assessments of the size of the global products and services market for geographic information have been produced for many years. For instance, the Daratech<sup>1</sup> GIS / Geospatial Markets and Opportunities study has been in continuous publication since 1989. However, we are not aware of any recent detailed study specifically relating to the UK market which is publicly available. Individual organisations have made or commissioned their own assessments, but access to such documents is usually commercially restricted.

This report seeks to fill the gap by providing an assessment of current UK market size and growth potential, based on information drawn from publicly available sources, interviews with industry opinion formers and informally gathered information from the authors' other contacts.

### **1.2 Structure**

The document is structured into sections concerning the audience and objectives, definition of the market, methodology, assessment of size, future trends and conclusions.

### **1.3 Status**

This version of the document presents a summary of the full research. A fuller version has been provided to members of the Service and Systems Suppliers' Special Interest Group of the Association for Geographic Information (AGI), who provided valuable input into early drafts of the document.

Other market assessment services based upon this document are also available from ConsultingWhere Ltd, please see our website [www.consultingwhere.com](http://www.consultingwhere.com)

It is intended that the document will be regularly updated and complete revisions published on an annual basis.

### **1.4 Acknowledgements**

We are indebted to many "opinion formers" within and outside the geographic information industry for their insight and candid observations on the present state of the market and future growth trends.

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<sup>1</sup> [www.daratech.com/about/profile.htm](http://www.daratech.com/about/profile.htm)

Where permission has been given, contributions are acknowledged, however, most were provided on a non-attributable basis.

## **2. Audience**

The report is designed to appeal to a wide audience. It seeks to be accessible to business leaders and investors by use of non-technical language except where explicitly required. It will also be relevant to geographic information (GI) industry professionals planning to operate, or already operating, within the UK.

The assessment paints a picture of an industry that plays a substantial role in many parts of the economy and, as such, is also pertinent to the work of public policy makers.

## **3. Objectives**

The overall aim of the report is to provide readers with a view of the UK GI market in financial terms for the purposes of aiding business planning and underscore its importance within the wider UK economy.

It seeks to do this through meeting the following objectives:

- To define a readily understandable scope for the market;
- To assess its size based on turnover of constituent organisations;
- To review the growth potential of individual market sectors in the near term.

These objectives are to be achieved using verifiable sources of information and credible techniques.

## 4. Scope

### 4.1 Defining the Market

There is no one generally accepted definition for the scope for the geographic information market.

The Association for Geographic Information (AGI) defines geographic information as “about objects or phenomena that are associated with a location relative to the surface of the earth”. A definition that is derived from the landmark Chorley Report<sup>2</sup> published in 1987.

However, this is not a sufficiently “tight” definition on which to base an assessment of the market that will be of use to practitioners, potential investors and other stakeholders.

The scope we have adopted can be defined as:

“economic activities where geographic information is the main driver of the application, service or system component.”

The choice of the word component is important as it allows us to include the contribution of geographic information within an enterprise-wide system or service.

We have also included activities that are described using terms that can be reasonably regarded as essentially synonyms or subsets of geographic information including geographical information systems (GIS), geospatial systems and services, the geoweb and location-based services.

It should also be stressed that this is a “supply-side” assessment. It deliberately does not try to value the human resource capital in customer organisations. Neither does it attempt to value the contribution of the GI industry to the UK economy.

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<sup>2</sup> Department of the Environment (1987). Handling Geographical Information, Report of the Committee of Enquiry chaired by Lord Chorley.

## **4.2 Market Segmentation**

For the purposes of this report we have used three different segmentations, by:

- Supplier Type – we have used the turnover of the larger organisations in each segment to build up our estimate of the overall market size.
- Industry Type – the Office of National Statistics (ONS) Standard industrial Classification<sup>3</sup> of economic activity identifies 21 basic types, we used this segmentation to assess market growth potential for those with major GI applications;
- Product or Service Type – using the categories of data, software, services and hardware in order to be consistent with the representation found in most Information and Communication Technologies (ICT) market analyses.

## **4.3 Geographical Coverage**

The report covers business activity within the United Kingdom of Great Britain and Northern Ireland. We have attempted to exclude turnover attributable to work undertaken by UK-based companies outside of the United Kingdom. This does present anomalies, for instance, in the turnover of some companies that report their revenues for Northern Ireland combined with the Irish Republic. In these cases, as in all others of this nature, we have taken a conservative view on the percentage that is attributable to business in Northern Ireland.

## **4.4 Currency Baseline**

The most up to date information available to us varies considerably. For publicly listed companies, Government regulation often drives more frequent reporting than is required for smaller companies. Further variation is introduced by the choice of financial year adopted by organisations which affects the date on which statutory accounts have to be filed.

For consistency therefore, we have “baselined” the market size assessment to reflect the position in calendar 2007.

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<sup>3</sup> Office for National Statistics, UK Standard Industrial Classification of Economic Activities 2007 (SIC 2007)

## **5. Methodology**

The report has been compiled largely by detailed research of publicly available sources of information. These sources have been supplemented by interviews with key senior figures within the industry. Where possible information has been verified by or adjusted by through other independent sources.

More details of the sources and techniques used are supplied in Annex B.

## 6. Market Size

### 6.1 Organisations Surveyed

We surveyed the largest players in the market under four main headings, based upon the description provided by the companies themselves, usually on their websites.

#### Software product suppliers

This category includes the main GIS vendors. Inevitably, most software vendors offer services related to their products, this has been taken into account when assessing the split of software and services revenue.

#### Data producers

We surveyed all the major public and private sector organisations, including such major players as Ordnance Survey and Navteq but also including remote sensing companies. It excludes data conversion organisations, these are classified as service providers.

#### Service providers

This includes system integrators and management consultancies, but also engineering consultancies.

#### Hardware Vendors

Here we have restricted scope to the major suppliers of photogrammetric equipment used in aerial mapping, high-end Global Positioning System(GPS) hardware used for GI data capture and cartographic printing equipment.

A partial list of the companies included in the assessment appears as Annex A.

## 6.2 Results

The representation of the results of our survey in Figure 1 reflects the segmentation normally used within Information Technology market studies.

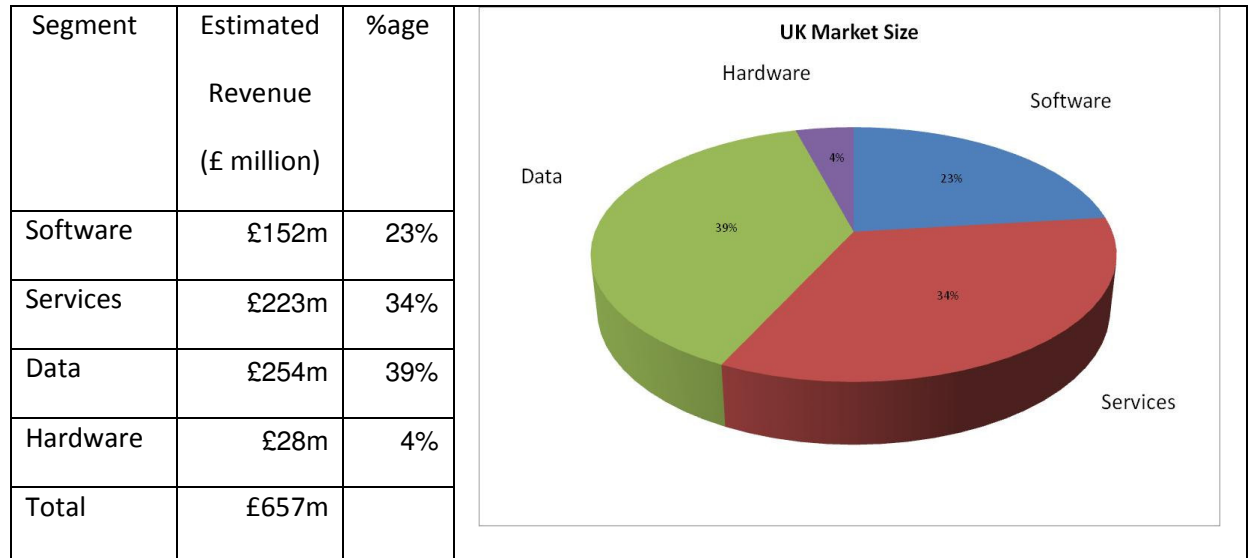


Figure 1: UK Market for Geographic Information Products and Services (2007) by revenue

Despite being the bedrock of most of the businesses that have dominated the market for many years, software sales represent only an estimated 23% of the overall market size. The services sector at 34% reflects the growing importance of services revenue to software organisations but more significantly the arrival of system integrators and consumer location-based services companies such as Google. The biggest segment is data, representing nearly 40% of the market. The combined revenues of OSGB and OSNI represent almost 50% of the £250m estimated for this segment. Hardware sales, which exclude general-purpose office tools, are a relatively small proportion of the market.

We have estimated the level of uncertainty associated with each company included in the survey. Based on that, we assess the figure to be accurate to +/- 10%.

## 6.3 Comparative Studies

### 6.3.1 Ordnance Survey

Ordnance Survey GB is one of the UK-based organisations that has researched the market size. A summary of this research was presented recently by Vanessa Lawrence at the GEO-8 conference<sup>4</sup>, however, this is believed to be the only information on the study in the public domain.

Table 1 below summarises their assessment.

Segment	Percentage	Estimated Size (£m)
Software	22%	
Services	44%	
Data	30%	
Hardware	4%	
Total	100%	£542m

Table 1: Ordnance Survey GB estimate of Market size 2005/6

The overall revenue assessment we report exceeds the Ordnance Survey's study by 20%. The Ordnance Survey's figures are for 2005/6, this was followed by a period of strong growth which, we believe, accounts for the major difference in the overall size of the market. Another contributing factor is that, although not explicitly stated, the OS assessment is thought to exclude Northern Ireland.

The stronger showing of services in this survey (10% higher) and the commensurate weakness of the data sector may well be due to differences in categorisation. For instance, transactional access to data through the web could be categorised as a service. We have taken the view that this is a data product sale, as the service element is largely a matter of the delivery mechanism.

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<sup>4</sup> Ordnance Survey: underpinning Great Britain with geographic information, Geo 8 Conference, April 2008

### **6.3.2 Global Market Assessment**

In conducting this study we looked at publicly available highlights from several global assessments. Global assessments tend to report the data category at a much lower percentage level than our survey suggests. This is unsurprising given the wide availability and use of detailed and thematically-diverse geographic information in the UK when compared to many other countries, particularly the United States.

These reports also suggest services are proportionately less prominent worldwide and software sales are larger. Whilst this inconsistency is at first sight troubling, we believe that the most likely cause is the maturity of the UK market. As a result of this relative maturity, organisations are spending more on services to help them exploit existing software purchased in previous years, than on buying new software.

## 7. Market Trends

The remainder of the assessment looks at the growth prospects for the market, starting with considering the business and technology trends that are currently affecting the market.

The global meltdown in financial markets, and the lack of clarity as to how this will play out in the “real” economy, makes this a particularly difficult moment at which to make any reliable forward predictions on market growth. The research has been undertaken while these extraordinary events were unfolding and their outcomes unclear.

### 7.1 Macro-economic Outlook

The latest assessments of the UK economy by the International Monetary Fund (IMF) and the Treasury’s own assessment in the Pre-Budget Report<sup>5</sup>, both predict a sustained period of recession. The IMF assessment is downbeat. In its IMF Survey magazine for September 2008<sup>6</sup> it predicts:

*“Although the flexibility of the economy and prompt policy responses by the government will provide some cushion against the ongoing shocks, a significant economic slowdown can be expected.*

*With tight financing conditions, rapidly falling house prices, depressed equity markets, and weak real income growth, private domestic demand is set to slow sharply. Although the recent depreciation of sterling has strengthened competitiveness, exports will be held back by softening global demand.”*

The Pre-Budget report predicts that:

*“Growth in 2009 as a whole is forecast to be negative, at  $-1\frac{1}{4}$  to  $-\frac{3}{4}$  per cent. The effect of fiscal stimulus, particularly the temporary cut in the rate of VAT and bringing forward of public investment to 2008-09 and 2009-10, in addition to other measures, is assumed to reduce the extent of the downturn by around  $\frac{1}{2}$  a percentage point.”*

Reading through the jargon, the key message is that the sharp slowing of economic activity across the UK is set to continue through 2009 with uncertain prospects for recovery in 2010. As a result of weakening incomes from taxation and already high levels of public debt, Government finances will be severely stretched. The bringing forward of £3bn of capital investment from 2010-11 may have some

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<sup>5</sup> Pre-Budget Report. Facing Global Challenges: Supporting people through difficult times. HM Treasury November 2008

<sup>6</sup> IMF Survey Vol 37 No9 September 2008

beneficial effect for construction and environmental sectors but this will be offset by an increase in the Value for Money target by £5bn in the same timeframe limiting “business as usual” public sector investment. The fall in the value of the Pound will negatively affect those who import their raw materials (such as software) from the US or Euro zone.

Overall, we believe this implies that in the public sector organisations will focus investment in areas where there are regulatory requirements, including EU initiatives, or where “invest to save” shows short-term benefits. The basic human need for security will however continue to sustain a number of large projects in the defence, intelligence and emergency services organisations.

Similarly, the recession will affect new investment in all private sector organisations either directly or indirectly. New growth may well have to come from areas which have already invested in technology and data but are under-exploiting this resource, either because of ineffective workflows or lack of knowledge of “how to” use the technology.

Concerns about climate change will continue to stimulate greater investment in geographical information for water resource management, coastal zone management, insurance and forestry but this is likely to be scaled back as financial survival becomes the most pressing concern of Government departments and private sectors alike.

Amongst this gloom, there are what the economists call “upside risks”. The IMF’s Olivier Blanchard<sup>7</sup> recently described these:

“Part of the decrease in demand in advanced countries reflects a wait and see attitude of firms and consumers, the notion that we really don’t know where we’re going, so let’s wait to see which way it goes, and maybe then spend when things are clearer. That effect, I think, is behind some of the decrease in spending that we have seen in the last two months.

To the extent that things stabilize, even if they stabilize at a relatively low level, it is quite conceivable that uncertainty, would decrease and that we would see a faster recovery of spending than we have assumed in our forecast.”

However, our assessment is that for 2009/10 the UK market for geographic information products and services is likely to reflect the recession in the wider economy.

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<sup>7</sup> Transcript of a Press Briefing on the World Economic Outlook Update by Olivier Blanchard, Economic Counselor and Director of Research, and Jörg Decressin, Chief of the World Economic Outlook Studies Division, IMF, 6<sup>th</sup> November 2008.

## 7.2 Business Drivers

There are a number of major business trends currently affecting the geographic information market, both in the UK and more widely. Looking from a business development perspective, some of the more significant are:

i) **Integration of GI into the IT mainstream**

It is widely recognised that the technology and data to support its integration with Customer Relationship Management (CRM), Enterprise Resource Planning (ERP) and other mission critical systems is now a mature “product”. The leading Geographical Information System (GIS) packages are now built on industry standard software platforms and support Services Oriented Architectures (SOAs). Furthermore, high quality, richly attributed geospatial data is now available for most parts of the UK. Consequently, geospatial systems are increasingly being seen as a viable component of enterprise IT transformation projects, both in both public and private sectors.

ii) **Emergence of geospatial tools focused on the consumer-market**

The major players in this rapidly emerging area are Google, with their Google Maps and Google Earth products and Microsoft with Virtual Earth and, the recently purchased, Multimap.

These tools have made geospatial data accessible and intelligible to a much wider range of users. As business leaders, and politicians, discover these tools through leisure and social activities, they are recognising their applicability to the working environment. Neither Google or Microsoft appear to be moving to provide business transformation and systems integration services necessary to leverage the opportunities these tools provide, offering opportunities for professional services providers and application developers to fill the gap.

iii) **Social Networking**

Location-based mobile services delivered to phone or Blackberry are predicted to be the “next SMS” in terms of impact on social networking. At the recent Where 2.0 conference<sup>8</sup> in San Francisco a range of relatively small but innovative organisations demonstrated applications to facilitate various networking activities based on locational awareness. These included enabling users to exchange geo-information on favoured entertainment venues, arranging “ad hoc” meetings based on knowing the location of contacts in real-time, tracking of children from mobile phone signals and geo-tagging photos based on wi-fi hotspot “triangulation”. The research firm ABI estimate that location-based mobile social networking will generate global revenues of \$3.3bn by

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<sup>8</sup> See Where 2.0 conference report in GISProfessional, June 2008.

2013<sup>9</sup>. Although some commentators were suggesting this figure to be very optimistic even before recent recession, it is clearly a significant trend.

iv) **Location Strategy**<sup>10</sup>

The strategy should provide new focus for public sector GI policy. The definition of a set of core reference data and support for making these available for common, widespread and unrestricted use will help make a National Spatial Data Infrastructure (NSDI) achievable for the UK. Its focus on capacity building through education and training is also significant. However, the apparent commitment to simplification of licensing of core location-based datasets to remove barriers to their usage, may be its greatest potential legacy.

v) **INSPIRE**

A major European initiative, INSPIRE (INfrastructure for SPatial InfoRmation in the European community) is going to have an increasing impact particularly on public bodies (e.g. central government, devolved government, government agencies and local authorities) in all countries of the EU over the next few years. The Directive, aimed at the establishment of a European spatial information infrastructure (SDI) that delivers integrated spatial information services to users, was passed on 2007. It has to be transposed into National law by May 2009. Although not mandatory, most member states will create their own national SDIs including the web services and supporting datasets conforming to pan-European data specifications following transposition. The focus is on data in support of the environment. Datasets relating to over thirty themes laid down in the Directive will need to be available for users. Implementation and compliance phases of INSPIRE will run for up to ten years from 2009 but impact is already beginning to be felt in the UK.

vi) **Transformational Government**

This is the Government's latest overarching statement about the Vision for IT within Government<sup>11</sup>. It is built on three central planks:

- better citizen access to Government services and information;
- increased sharing of services;
- professionalism in delivery.

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<sup>9</sup> ABI Research study, "Location-based Mobile Social Networking", August 2008

<sup>10</sup> Place Matters: the Location Strategy for the United Kingdom. Communities and Local Government, November 2008.

<sup>11</sup> Transformational Government: Enabled by Technology. Cabinet office November 2005

However, whereas the preceding e-Government agenda was conducive to investment in geospatial systems, this agenda is primarily about saving money. The Gershon<sup>12</sup> report set an objective to remove 85,000 civil service posts in 3 years. In reality, although the 2008 Pre-Budget Report claims over-achievement against this goal, a considerable volume of savings appear to have come from reduced spending on external consultants and new projects.

**vii) Regulatory Compliance**

This applies most obviously in the financial services sector. Here the ongoing impact of greater regulation has resulted in large proportions of IT budgets being sunk into projects for systems auditing and integration to the detriment of more “discretionary” applications such as GIS. However, regulatory pressure has had a beneficial effect in the UK utilities GI market, where greater reporting requirements and penalties for poor practice have been a major stimulus for improving asset management systems.

**viii) Climate Change**

Visualisation is the most obvious application of geographic information within the climate change debate. However, vast amounts of information must be processed and analysed, usually on a fundamentally geographical basis to validate the science. Flood control, coastal zone management and insurance perils assessment are all applications which are growing in importance as a result of climate change. In addition, many organisations are seeking to evaluate the carbon footprint of their activities – an exercise that requires information on location and travel distances whether by staff or within the supply-chain of their products.

**ix) Population Change**

Office for National Statistics has predicted that if present trends continue, then the UK population will increase by 4.4 million to 65 million by 2016 and pass 70 million by 2028. The government has decided to increase the rate of house-building to 200,000 per year over the next decade. Planning will also be changed to ensure a better response to housing markets and local need. These factors will place every increasing emphasis on land use. They are likely to increase demand for suitable geospatial systems to aid the planning process and consultancy in the selection and utilisation of such tools.

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<sup>12</sup> Releasing Resources to the Front Line - Independent Review of Public Sector Efficiency, Sir Peter Gershon (chairman), HM Treasury (2004)

### **7.3 Commentary**

The move of GI into the mainstream is particularly significant. For decades the “holy grail” of GI practitioners, its increasing reality brings a negative side effect from the perspective of GI specialist organisations. Once GI becomes part of the enterprise Information and Communications Technology (ICT) infrastructure it becomes part of the high value integration projects with life-cycle costs that make priming by a large integrator almost inevitable. The consequential “loss of control” for the GI supplier and intermediation from the customer is potentially very uncomfortable.

## 7.4 Technology Directions

Although technology is driving many of the market trends outlined above, because geographic information is a very heavily technology-driven market, some of the key directions need some further explanation:

**i) Spatially Enabled Database Management Systems**

In 2008, Microsoft launched a new version of SQL\*Server incorporating for the first time core support for spatial data types. Oracle Spatial has been in the market for several years and has reached a level of maturity that it is now the default for many customers who are corporately committed to that vendor.

**ii) Mass Market Visualisation Tools**

Google and more recently Microsoft (with their Virtual Earth product) have “shifted the paradigm” in terms of the expectations of both the experience of accessing spatial data and its accessibility. For geo-centric organisations, their integration into the existing enterprise systems represents a significant challenge. For geo-enabled organisations it lowers the cost of entry.

**iii) Neogeography**

The emergence of groups of users, largely individuals, willing to spend time collecting and maintaining their own data is a recent trend which may have far reaching consequences for data providers. The possibility is that the neogeography movement becomes the “Wikipedia” of the geospatial world and, in the process, challenges the business model of existing data providers.

**iv) Software as a Service**

This development, being embraced most significantly by Microsoft, is based upon the notion that customers may find it more cost-effective to “hire” software only when they need it. The user accesses the software they need over the internet and pays a transaction fee each time they do so.

**v) Open Source**

A number of software packages have been developed in the last few years which are licensed either at the cost of distribution or free – these are collectively referred to as open source – as the source code is available to any user to modify as they wish. Open source GIS have been available for a number of years, however, recent moves to bring together components into a more coherent package may mean that they do start to offer a viable alternative to the leading commercial packages. Certainly, the major vendors are beginning to talk more seriously at a senior level about what has been until recently the “the elephant in the room”. Moves in various European countries

to mandate consideration by public bodies of open source alternatives, coupled with economic pressures, may accelerate the importance of products such as PostGIS and GeoDjango.

**vi) Virtual-reality Gaming**

Another announcement at the Where 2.0 conference this year were plans by Microsoft to publish 6cm resolution imagery for over 300 cities worldwide at a rate of 20-30 cities per month. This is highly significant. The availability of this ultra-high resolution imagery not only “raises the stakes” in its battle with Google for domination of the consumer mapping tools market but also opens the possibility of high resolution 3D imagery feeding a new generation of massive multi-player online games. The future may well include players with heads-up displays featuring such imagery moving out of the bedrooms of “generation Y” and onto the streets.

## 8. Growth Trends by Industry Sector

In this section, we look at the industries that are the major users of geographic information in the UK and provide some indicators of future growth trends.

### 8.1 Utilities

The utilities market has been a major driver of revenues for many of the major GIS software vendors for a number of years. The majority of water companies have a comprehensive asset management system with either embedded, or closely coupled, GIS capabilities. The water and gas industries have led the way, in part due to the simplicity of their networks compared to those of the electricity supply companies.

The Ordnance Survey GB's Positional Accuracy Improvement (PAI) programme has been a major stimulus for re-evaluation of existing systems in recent years. This has been coupled with regulatory pressure for better reporting of, and financial penalties linked to, key performance indicators such as power outages and water main leakage for instance. The cost penalties being imposed by Ordnance Survey (GB) on companies who do not migrate to MasterMap® from Land-Line® are a further impetus for change.

Industry commentators suggest however that the current round of system (and data) upgrades may be reaching a peak. Contracts have recently been let, for instance, for new systems at Welsh Water<sup>13</sup> and Southern Water<sup>14</sup> but there appear to be fewer large prospects than in the recent past.

Although there will clearly be potential revenues additional from leveraging the asset-base into other applications such as logistics and marketing, the revenues for GIS companies are unlikely to be as significant as those generated by asset management.

Overall, our assessment is that revenues from this market are close to their peak and that once the current round of upgrades, designed to integrate GI with workflow and financial systems, is complete revenues will, we believe, start to plateau.

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<sup>13</sup> ESRI Press release

<sup>14</sup> Autodesk Press release

## **8.2 Telecommunications**

The use of GI for fixed line and cable network providers is long established and to a great extent mirrors the other utilities with asset management and network planning as the primary drivers. The wireless network operators have also been active in its use particularly for network planning and visualising signal coverage. Other applications such as demand forecasting and strategic marketing are likely to be increasingly important in the future.

Most of the big players in this market are global companies and it is likely that investment decisions will be made at a corporate level. With many of these companies headquartered in the UK, this will continue to give an edge to local suppliers. Consequently, we see revenue growth “pulled through” from the strength of the consumer location-based services market, referred to later, as likely to continue.

## **8.3 Local Government**

Local Government was amongst the first to embrace GIS in the 1980s. Although per contract revenues have never reached the levels of Central Government or utilities they have been the underpinning of many organisations, particularly ESRI, MapInfo and Cadcorp. Data providers, including those specialising in aerial imagery have also been successful in providing data and services linked particularly to environmental functions. The larger system integrators have been rather slower to penetrate this market than others, possibly due to the reputation of local authorities for reticence to embrace new technology.

This market is currently beset by multiple pressures which opinion formers seem to agree will limit its growth in the next few years. The impending reorganisation of Local Government, by which the number of authorities will be reduced by about 10%, will be one factor. However, the Transformational Government agenda with its focus on cost reduction, particularly for ICT, is likely to be a more significant curb on investment overall.

We predict that revenues from this sector will not grow in real terms over the next 1-2 years and, in the view of at least one commentator, may even fall significantly.

## **8.4 Central Government**

The market appears to be suffering from a lack of direction, although this may be alleviated by the recent publication of the Location Strategy.

Investment in software in previous years has been considerable, driven by Government programmes, for instance, related to flood protection within the Environment Agency, population census planning within the Office for National Statistics and agricultural “set aside” in what is now Defra. More recently the impetus has been towards more effective use of the software tools purchased in connection with these big systems, through much smaller incremental projects.

Other departments may well have delayed making investment decisions on GI, in anticipation of the Location Strategy. A further complication has been the INSPIRE initiative alluded to in the business drivers section. INSPIRE aims to improve interoperability of geospatial data and is seen as a major spur to the creation of spatial data infrastructures.

As with Local Government, senior officials interviewed as part of the study also see the Transformational Government focus on cost-effectiveness as a constraint upon new investment.

In Northern Ireland the reorganisation which has brought together the valuation and lands agency, Rate Collection Agency, Land Registry and Ordnance Survey has yet to “bed down” and major investment decisions are likely to require a longer “gestation period”.

Our overall assessment is that whilst INSPIRE and the UK Location Strategy may well stimulate some new investment, it is not likely to result in a resurgence of large infrastructural projects which sustained the growth in this market over the last decade or so.

## **8.5 Defence and Intelligence**

The lack of publicly available information constrains what it is prudent to comment upon in the sector. However, there is little doubt that the potential of GI to aid the operations of the armed forces and intelligent services is well recognised and reflected in the importance attached to it by software suppliers and systems integrators to the sector. The creation and maintenance of a common operation picture (COP) - a single view shared by all units of the current situation, is one of the more challenging and valuable application areas. However, the embedding of GI technology into operational systems is also highly significant.

Whilst substantial threats remain to our national security this is a market which is likely to continue to show strong growth.

## **8.6 Emergency Services**

The use of GI within the emergency services, particularly the police has for many years been dominated, in revenue terms, by gazetteer applications supporting command and control applications. Northgate

information Systems, for instance, claim that their GIS systems support 90% of Police 999 calls.<sup>15</sup> In recent months, crime mapping popularised by London Mayor Boris Johnson<sup>16</sup> has also had a high public profile. There are also many other potential applications including situational awareness, resource planning and crime pattern analysis.

It remains to be seen whether GI becomes part of the “mission critical” infrastructure across all police forces and fire and ambulance services, rather than a set of disconnected tactical tools. Certainly many of the major vendors seem to be gearing up for growth in this market and we expected this effort to be converted into new sales, although probably not at the rate they would like.

## **8.7 Health**

The new arrangements for access to digital mapping data for NHS organisations under the framework agreement procured by the NHS Information Centre were announced earlier this year<sup>17</sup>. The agreement, fronted by Dotted Eyes, will offer NHS Trusts their chosen products from a basket of digital mapping data included in a fixed price schedule available over the 4 year period. However, Trusts will have to opt into the scheme, at a cost.

The ubiquitous use of GI within the NHS probably relies upon the success of the National Programme for IT (NPfIT) the umbrella IT programme. This programme is running behind schedule and the current plans do not, we understand, include integration of GI within the core records management systems.

Our assessment is that revenues from the health sector will remain relatively small over the next 2-3 years.

## **8.8 Consumer Location-based Services**

The emergence of Google and Microsoft as major players in the GI market has been explosive. The revenue estimated to be generated by what we have characterised as consumer location-based services has grown from just about zero three years ago. The revenue is currently coming predominantly from advertising, although pundits believe that subscription or transactional micropayments do have potential for premium services. In addition, we believe, there is a growing licensing stream for both players as the base product becomes the default user interface for many GI applications.

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<sup>15</sup> Northgate public services, Criminal Justice and Public Safety overview, November 2008.

<sup>16</sup> See website <http://maps.met.police.uk>

<sup>17</sup> <http://www.ic.nhs.uk/statistics-and-data-collections/population-and-geography/nhs-digital-mapping-agreement.htm>

Sales of aerial and satellite imagery, navigational and other base data that underpins these services are also benefiting, as witnessed by the growth of companies such as Blom and Infoterra.

This market, we predict, will be the fastest growing sector of the GI industry over the next few years. However, the main benefactors of the expansion are likely to be Google and Microsoft and a few close partners.

### **8.9 Marine**

The Marine Bill<sup>18</sup> is likely to provide impetus for a range of GI-rich applications related to the creation of marine protected areas and the need to balance conservation with demand for offshore windfarms, gravel extraction and fisheries. Increasing incidence of flooding is also necessitating increased funding for coastal zone management.

Although small in size, marine applications will become an increasingly important niche market over the coming years.

### **8.10 Transport**

Despite recent easing, the rapid rise in oil prices has forced many businesses to re-examine their supply-chain costs. Sales of logistics applications, the data which underpins them and related services are likely to benefit. Government policy on road congestion, including road pricing, should it come to fruition could also become a significant source of GI-related revenue.

Similarly the growth in mobile social networking and in-car navigation aids is stimulating a rapid growth in revenues for data provider organisations such as Navteq and Teleatlas. The recent purchase of both organisations by global players (Nokia and Tom-Tom respectively) illustrates that control of this market will be fiercely contested in the next few years.

This is a sector to watch. Strong potential growth is likely to result in the emergence of new products and software in the near term.

### **8.11 Financial and Insurance**

The meltdown in the banking sector has already led to the rapid consolidation of the banking sector. The nature of the recent spate of “rescues” means that organisations will take a considerable amount of time to work through the restructuring that will be required to allow these enlarged institutions to work

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<sup>18</sup> Protecting our Marine environment through the Marine Bill, Defra April 2008

effectively. However, the new banking world is certain to be subject to much increased regulation, which may in time present new “fringe” opportunities for GI.

The increase in the frequency of natural disasters as a result of climate change will continue to stimulate the need for risk management solutions based on GI. These projects are such an integral part of the way in which insurance and re-insurance companies operate, that they are likely to be an integral parts of much bigger IT re-architecting programmes.

Our assessment is that this is a market sector that will grow in importance to those companies within the GI industry that have sufficient experience of large IT projects to be credible in a market dominated by a few global system integrators.

### **8.12 Retail**

This sector is one where it is very difficult to generalise in assessing prospects for growth. It can be characterised as being very wide but very thin – the GI needs of the supermarkets being very different from the automotive industry. However, what is true for all parts of the sector is that the key factor in buying decisions is the credibility of the data. The nature of the data required is changing, increasing volumes of consumer purchases are online and the population is becoming more transient, new models to analyse these new data sources are also required.

Larger companies still tend to use retained specialists analysis companies, who provide regular updates to their own specialised metrics supplemented by special assessments in areas of particular potential for growth. These companies make their own choice of GIS tools and adapt / extend the in-built models for market analysis, site selection and territory management. Web-based facilities which enable customers to upload their own data and run pre-defined models have recently enabled small and medium size businesses to gain access to GI without the need for purchasing systems and building internal expertise. This is perhaps one area in GI where Software as a Service (SaaS) is gaining some traction.

The picture for the next two years is likely to be one of limited growth, probably concentrated on more medium-size enterprises using shared data / modelling systems online. However, rationalisation of store networks as a result of the recession may provide one area of increased opportunity.

### **8.13 Land and Property**

The creation of the National Land Information Service (NLIS) based on improving the efficiency of the conveyancing market has led to the formation of a new generation of web-based land and property data

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“aggregators”, most notable being perhaps Searchflow (now owned by Macdonald Dettwiler Associates Ltd) and Landmark (owned by the Daily Mail group). Figures from Land Registry<sup>19</sup> show that revenues attributable to the ownership component alone showed a rise to £4.2m in 2007/8.

The implosion of the housing market in the last 12 months suggests that the good times have at least temporarily gone for these companies. However, the UK population profile and social trends, as pointed out, will require substantial quantities of new homes in the next 10 years, so the market is expected to revive.

### **8.13 Construction**

The 2012 summer Olympic and Paralympic games in London are certain to generate the need for a wide range of specialised applications. These will include systems that integrate GI into CAD for the Olympic venues, transport modelling and security systems. There will also be a demand for GI skills within the services teams that build and run these applications. The CLG consortium<sup>20</sup>, who are the prime sub-contractor to the Olympic Development Authority are likely to be the main beneficiaries. However, many other organisations will be needed to make this vast project a reality, so this is likely to be a major generator of new business for those GI companies selected over the next four years.

The remainder of the construction industry is likely to continue to be affected by the slump in demand in the housing market and by the stretching of Government finances limiting the scope for new public works.

We assess this as a difficult market for the next few years, with the exception of the projects linked to the Olympics.

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<sup>19</sup> Land Registry Annual report 2007/8.

<sup>20</sup> CLG – a consortium of Laing O’Rourke, MACE and CH2M HILL

## 9. Conclusions

Work on this study has been on-going for a number of months. During this period the economic situation has been gradually deteriorating to a position in mid-November where any prediction about future growth is certain to need revision within months if not weeks.

Nevertheless, we believe the analysis is sound and the *relative* performance of various industries is likely to reflect our predictions. What it shows is that the future prospects are very much market dependent.

In the next 2-3 years, we can expect that:

- The traditional engines of local and central Government are unlikely to grow in real terms and may even go into reverse;
- The utilities markets is going through a welcome “spike” of activity driven by the need to replace outdated technology and regulatory pressure but is unlikely to be sustained in the long term;
- Commercial markets, particularly transport and insurance, still have considerable potential provided that individual projects can demonstrate a strong short-term Return on Investment.
- Construction and land and property, may in the medium to longer-term recover, but the collapse in the housing market will make these markets very tough in the near term.
- The strongest area of growth will be in consumer Location-based services but it is likely to benefit only a relatively small number of big players and some innovative start-ups.

It is our intention to keep this survey up to date by constant revisions that will be accessible via our website at <http://www.consultingwhere.com/resources.htm>

## Annex A: Partial list of companies surveyed

### Software Product Vendors

1Spatial	Intergraph
Autodesk	Leica
Bentley	MapInfo
Cadcorp Ltd	MapMechanics
E-Spatial	Microsoft
ESRI (UK)	Northgate Information Solutions Ltd
GE Energy (Smallworld)	Oracle Corporation UK
GGP Systems Ltd	Snowflake Software Ltd
Innogistic	Star-Apic (UK) Ltd

### Data Providers

Bluesky International	NAVTEQ
British Geological Survey	NI Land Registry
Collins Bartholomew	Ordnance Survey
Digital Globe	OSNI
Experian	Registers of Scotland
GeoInformation Group	Seazone
Groundsure	Teleatlas
Land Registry	The Coal Authority
Intelligent Addressing	UK Hydrographic Office
Landmark	

Service Providers

Accenture	Infotech Enterprises Europe
Atkins Geospatial	Infoterra
BAE Systems	Logica CMG
BT Global Services	MDA Consulting
Cap Gemini	Microsoft
CH2M HILL	Northrop Grumman
Dotted Eyes	Qinetq
EMapSite	Rolta UK
Fugro Geospatial Services	SAIC
Google	TATA Consultancy Services Limited
IBM	Tenet
Informed Solutions	Wipro

Hardware Vendors

Garmin	Trimble
Magellan	Topcon (inc. Sokkia)
Leica Geosystems (acquired by Hexagon AB)	Hewlett Packard

## **Annex B: Methodology**

### **1. Market Size Assessment**

The primary sources of information used in compiling our assessment of the size of the UK market were verifiable public sources. The records of Companies House (and Companies Registry for Northern Ireland) were used to source turnover for UK registered private and public companies. For public bodies, published annual reports provide details of turnover to a sufficient level of detail to derive figures for relevant activity.

Many of the larger companies are registered in other parts of the world and, for the most part, do not breakdown their revenues to the level of individual countries. However, for listed companies, annual reports and investor information provide reliable sources of operating revenues. In these cases, we have worked from figures for the smallest regional sub-division available, often Europe or Europe Middle East and Africa (EMEA). The economic digest from the OECD<sup>21</sup>, which estimates economic activity in the largest countries in Europe, has been used as an estimator to further decompose these figures. The digest provides Gross Domestic Product (GDP) figures for the computer software and services sector and these have been used in preference to figures for the overall economy.

For the largest companies, where GI-related activities are often only a small part of the business, as is the case with most system integrators, it is often difficult to find any information at the necessary level of granularity for our purposes. In these cases, we have taken a conservative approach of valuing only those contracts where GI activity is specifically identified. These have either been valued directly where contract values are stated or by inference from projects in comparable organisations.

The revenues of smaller companies with a turnover of under £1m per annum are able to submit abbreviated accounts to Companies House. Such accounts do not state turnover and have also been discounted in the size estimate.

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<sup>21</sup> Organisation for Economic Co-operation and Development (OECD), Information Technology Outlook, 2006 (plus online updates)

## **2. Market Growth Assessment**

The main source for our assessment was based on the investor information of the larger publicly-listed companies. This has been supplemented by wider market surveys for each sector analysed. These market surveys have been undertaken by industry regulators, trade associations and management consultancies.

The analysis of these reports has been supplemented and validated by interviews with UK industry leaders.

*Document ends*