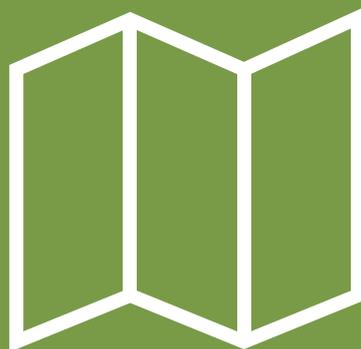


Cloud Geospatial Service

SERVICE DESCRIPTION



Cloud Geospatial Solutions

This service allows you to operate all your geospatial, GIS and addressing requirements as a service running from our high performance, resilient and secure cloud geospatial platform.

You can choose which level of benefit you require – from simple data serving and consumption through to complex geospatial functionality, analysis and visualisation.

Landmark's high performance, secure, resilient enterprise cloud SaaS platform ensures you a reliable, 'always on' service operating to defined service levels.

You can see more detail on our website www.landmarksolutions.co.uk

- Geospatial, Addressing, Location-based and property-centric spatial services
- A service designed for you and branded to you
- Delivering the services you want, when you want them
- Reduced lead times – already installed and configured
- Cost effective
- A proven one stop shop supplier for all your geospatial services
- Flexible
- Responsive
- Adaptable
- Benefit from the latest technology
- Regularly updated
- Full helpdesk support
- Easy usability
- Reliable 'always on' service mean no concerns about loss of access at critical times
- INSPIRE compliant

An overview of the online GIS service

Plug into our enterprise GIS facilities as a service, and start to reap the benefits of high power applications, a secure and resilient platform and a flexible and scalable service. Landmark will ensure your individual GIS data, analysis and visualisation requirements are all properly catered for across all market sectors – be that government, utilities, health, education, emergency services, defence or other. You can see more about our experience and expertise in this sector at www.landmarksolutions.co.uk

This G-cloud service is a Geospatial Information System (GIS) App store concept provided by Landmark. This service provides the ability to perform a full range of geo-spatial tasks – from simple map visualisation to accessing more advanced common geo-processing functions. Our systems are widely used in existing public sector deployments – such as **magic.gov.uk** and **www.activeplacespower.com**

We provide SaaS services to the level and complexity you require. Once logged in and connected to this service you will be able to perform a full range of spatial operations based on the Subscription Licence Level at which you have joined.

Level 1

- View/Query maps of OS free background vector and raster data via web map application front end
- View/Query ESRI ArcGIS Online free base map data via web map application front end
- View/Query OS licensed vector and raster data via web map application front end (licence verification required)
- WMS/WFS feed of published map services
- KML feed of published map services
- Interactive Select and Download free spatial data in various common formats
- Interactive Select and Download OS licensed spatial data in various common formats (licence verification required)
- Interactive Select and Download of Landmark Spatial Data (PointX, Environmental)
- Upload your spatial data in OGC Approved Shape format to add to web map
- Upload your spatial data (points/lines/polygons) to perform simple non-geodesic buffering

Level 2

- Upload your spreadsheet of X-Y data to create and download spatial point in Shape format
- Upload your spreadsheet of street address data to Geocode into points and download Shape and /or GML 2.0 format.
- Upload your spatial data and perform format conversion to ESRI Shape/MapInfo/Intergraph/GML2/AutoCAD
- Upload your data to perform re-projecting (change Spatial Reference)



Level 3

- Perform route optimisation using Transport Network
- Drive Time Polygons using Transport Network
- Upload client spatial data and perform Spatial Joins with known boundary data (Wards, Districts, Counties, Westminster Constituencies)
- Upload client spatial data and perform format conversion to complete FME listing available
- Development of custom web GIS tools and functions – Advanced Services
- Development of custom Desktop mapping system package with selected, secure, custom map services

We support all relevant open standards across our On-Line GIS services and can seamlessly integrate these into our services along with proprietary standards (e.g. ESRI Geodatabase) which, by their usage and user base, are essentially open across this sector.

We can work with any standard – be that vector, raster, 3-D, point cloud or non-spatial. This includes Open Standards such as GML, KML, LandXML, DXF, ESRI, Map-Info and other major suppliers.

The underlying platform comprises a multi-site resilient infrastructure hosted in two geographically separated TIA-942 Tier 3+ secure Data Centres located within the UK. This infrastructure is owned and operated by Landmark and is based on market leading vendors' hardware and software, utilising proven industry standards throughout. Each Data Centre site is linked using multiple high speed low latency circuits for both inter-site connectivity and web facing Internet connectivity.

The Landmark G-Cloud service utilises virtualised server technologies enabling customers to have their own dedicated secure network resources within the Landmark G-Cloud infrastructure, which can quickly be scaled up or down as required for your service. Data stored on the Landmark G-Cloud service is backed up using industry standard backup technologies and processes to ensure that all customer data is fully protected.

All services are delivered in accordance with our ISO9001, ISO27001 and ISO14001 certifications and in-line with our ITIL service management practices.

Level of backup/restore and disaster recovery provided

All Servers that make up the Landmark solution are protected with at least a daily data backup. In addition database servers are protected at a transaction level, to ensure key customer information is not lost. Data retention policies vary depending on the type of data involved, but a typical yearly backup will be stored for 7 years. Landmark services operate out of multiple geographically dispersed data centres that provide versatile and scalable Disaster Recovery options. Key services operate a zero data loss service with a seamless failover.

Virtual Guests are backed up using VMware Storage API technologies to provide guest level consistent recover points on the Storage Array, which are asynchronously replicated to the remote DR site.

Database recover points are stored on the Primary Storage system and asynchronously replicated to the DR site.



Database backup verification is completed by the application at the point of performing the backup. Any requirement for post backup verification can be performed at any time, since the backup disk remains online. Recover points are replicated at the storage level and block verification is performed during the replication process.

We achieve recovery by using asynchronous snapping technologies from NetApp which offer Recovery Points ranging from 15 minutes to several years as required, subject to system capacity and data change rates. We can accomplish crash consistent, guest consistent or application consistent backups using a number of software integration options to provide the required level of recovery.

The secondary system is located at a remote site to provide inherent offsite backup, recovery and DR capability.

On-boarding and Off-boarding processes/scope

Access to the service is via a simple online user registration process. Account creation takes place subject to the acceptance of the published terms and conditions for use of the service.

Once registered you may configure your profile to arrange the service to meet your needs. You will also have access to online help facilities and documentation regarding the service.

You may create and administer further users for your organisation if desired.

Withdrawal from the service is simply a matter of following the account cancellation process. This will ensure any relevant user information is removed from the service and all user data deleted. Account termination is conducted in line with the published terms and conditions of the service.

Your data can be imported and managed as part of the on-boarding process – we can work with over 175 formats. Alternatively we can link our service to user-hosted data stores. This is a bespoke element of the service that is configured to individual customer needs.

Thin clients that can be used by the service

The service is designed to be integrated into other applications – for example as a ‘map window’ pane within a third party application or web service. We use REST and SOAP services to facilitate this.

Other client software that may be used with the service.

This service integrates with any client software that supports REST or SOAP.

Service management details

The service operates on a 24x7 basis. Standard core operational hours run from 09:00 to 17:00 on working days and operate to 99.5% availability during those hours and are supported by customer support and help desk teams.

We will accommodate individual customer requirements exceeding this level by negotiation.

We monitor the appropriate platforms and applications delivering the service by a range of tools to ensure the service is delivering to optimal levels. Service Management processes are aligned to ITIL and certified to ISO9001:2008

Management information

You can define the level of management information you wish to receive as part of the service. We use standard web service monitoring tools to measure and audit usage profiles of all users and discrete IP addresses. This can be supplied as required as standard monthly management information reports to cover:

- Service constraints (e.g. maintenance windows, level of customisation) capture, store, analysis and display of metrics related to online services and / or users
- Page impressions, unique users, downloads, entry and exit pages
- User journey, hot-spots, search term entry and location

Service constraints

Maintenance windows occur outside core operational hours and wherever possible we implement these without impact to live services.

We support customer ring-fencing to facilitate bespoke maintenance and any degree of customer customisation.

Service levels

The service operates on a 24x7 basis. Minimum core operational hours are from 09:00 to 17:00 on working days - operating to 99.5% availability during those hours and supported by Landmark’s customer support and help desk teams.

Individual customer requirements exceeding this level will be accommodated by negotiation. We will agree levels of availability, capacity, system performance, resilience, security (IL), support hours, monitoring and reporting, issue management and escalation to suit your individual customer requirements.

Support boundaries/interfaces documented

Customer interface and support are bespoke to your individual requirements and to suit your needs. We offer standard levels which can be enhanced as required.

Performance attributes defined and documented

Uptime is 24*7*365 except for scheduled out of hours maintenance windows which we publicise in advance.

Performance within our domain is for each on-line server request for a map display to be fulfilled within 5 seconds at the user’s site, unless the request is for a specific “heavyweight” analysis or data download function whose response time will be defined by the nature and scope of the query/download.

Caching

All map services are globally cached for optimum performance.

Support service provided

We operate full customer support and helpdesk facilities supported by on-line resources and service desk functions. First and Second Line telephone support is available 08.00 to 18.00 business days or longer by negotiation.

Financial recompense model for not meeting service levels

If required, we will agree meaningful and measurable SLAs with each requirement and align this with an appropriate service credit regime.

Training

We will provide training as part of the overall customer support package. This will be tailored to meet your individual requirements. Here are some of the training options we offer:

- Training courses
- User documentation and on-line help
- Courseware
- Programmers reference
- Installation Guide
- Maintenance information
- Systems guide
- Systems architecture
- Applications notes
- Integration methodology

Ordering and invoicing process

Customers should place orders to Landmark using our pro-forma via email, post or fax.

We will agree invoicing terms on the provision of specific services and include:

- monthly in arrears
- by milestones, or at the end of a work package

Any setting up or other start up fees agreed in advance with customers are payable with the first invoice. Similarly any termination fees agreed in advance with customers are payable with the last invoice.

Payment terms

30 days or, if you are signed up to the Government 'prompt payment' initiative, then it is 10 days.

Termination terms

We will agree service termination and exit procedures as part of the service management agreement. This will cover termination by the customer and termination by the supplier

Data restoration/service migration

Client data is maintained rigorously to the highest standards of quality and timeliness. We have a full version control system in place. We make full details available to all clients, and encourage discussion and review in order that the system can be configured to specific needs as required. This means that, at any point, we are able to inform you of the state of your data, including full versioning details, which updates have been incorporated (and which, if any, have not) as well as user and format details and other information necessary for them to manage your data upon return, or migration to another service provider. We are committed to full customer support and are meticulous in ensuring smooth transition and seamless service migration.

Data standards include Open Standards and standard proprietary standards – including standards specific to any applications running on the platform. We can convert geospatial data from over 175 formats.

All customer data is fully documented, catalogued and audited on the platform. This forms the basis by which data is returned to you and then securely destroyed on the platform at termination of contract.

Data can be extracted in any formats or standards including XML, database dumps, formatted outputs (e.g. CSV) and simple file transfer. Data can be transferred by secure SFTP or by encrypted media.

Prices for extraction of customer data will be agreed as part of the contractual service management conditions.

Consumer responsibilities

- Users must comply with all terms and conditions of use for the systems
- Users must agree not to use the service in any way that may lead to the encouragement, procurement or carrying out of any criminal or unlawful activity
- Users must agree not to do anything that may cause damage to the systems or our servers, systems or equipment or those of third parties, nor access any other users' data or penetrate or circumvent any Website security measures or attempt to do any such acts
- Users are entirely responsible for maintaining the confidentiality of their details when using our systems
- Users are not permitted to share user name or password with any other person nor with multiple users on a network. It is the user's sole responsibility to maintain the confidentiality of passwords and take responsibility for all activity that occurs under their user name and password
- We will not be liable where your password is used by someone else. Users should notify us immediately of any unauthorised use of their password and any breach of security as soon as they become aware of it

Technical requirements

Browser support

Whereas there are no restrictions on which web browser to use, the service provision is geared to the browsers listed below in terms of support and effort to ensure the service performs as expected. This support is on a 'best endeavour' basis.

- Firefox 3.5 or higher
- Chrome 1.5 or higher
- Internet Explorer 8
- Internet Explorer 9
- Internet Explorer 10+
- Microsoft Edge
- Safari
- Opera

Security

To avoid any network security issues with plug-ins and downloads, the service navigation front end is JavaScript.

Internet Connection is Required

Client side Internet connection speed minimum of 2 Mbps.

Video display of 1024x768 minimum with 32 bit colour depth.

All service update requirements will be scheduled and broadcast to users as to time and duration. With the exception of mitigating circumstances the service update will occur outside normal operation hours.

Application lifecycle services

The applications that underpin the service are regularly upgraded in line with their individual product upgrade paths and to allow the integration of new technologies and new functionality. Backward compatibility is maintained until the core product goes out of support, when it is retired.

Details of any trial service available

Standard services are available on a trial basis for up to one month.

Exit process for data extraction and removal

Data standards

The data standards that are in use within the service will be the ESRI Geodatabase along with capabilities for using WMS/WFS as well as KML. These services will be rendered as REST services.

The standards used for extraction of consumer generated data are ESRI Shape format and/or OGC Standard GML 2.0 format.

These formats are popular open standards and easily managed on import/export functions within the common GIS and CAD software systems in the industry. If there is an agreed reason or special circumstances it is possible to establish special arrangements to export to other formats within the capabilities of the service provider.

Return of data

We confirm that we are fully compliant with this requirement. We maintain full version control and stringent security over all data, including client data and consumer generated data as listed here. This will always be returned, securely, to our clients or other stakeholders whenever required. To avoid confusion, we confirm that data that will not be available for later extraction will also be included.

Extraction of data

We confirm that we do not normally charge for this service.

Data purging

Landmark confirms that we will purge and destroy (in accordance with our security standards) all consumer data from any computers, storage devices and storage media that we retain after the expiry after the end of the subscription period and the subsequent extraction of consumer data (if requested by the consumer). We will ensure our clients are completely satisfied with the data returned to them, before completing this operation.

Pricing

The Landmark Cloud-GIS service comprises a number of components from which you may select one or more service elements, either as a 'one-off' operation (for example a specific geographic analysis work package) or as a longer-term G-Cloud service (for example, ongoing WFS supply of national mapping information).

We offer pricing intervals based on usage:

- Pay Per Click:
 - by transaction site
 - by area (pay per km per year)
 - by data set

We offer a range of pricing models to suit individual requirements and to provide customers with choice of how they wish to pay. These include:

- Transactional/unit Ppayments
 - Payment per click when undertaking operations on a standard on-line map supply service that is licensed (not free)
 - a given data set of so many records
 - Payment by map feature – for example when requesting download of a digital map base – defined by area required and the number of map features contained
- Subscription payment
 - A monthly or annual service charge whereby the user pays a fixed subscription to acquire a given service to agreed service levels – for example the provision of access to a mapping feed of a particular area
 - A hybrid of a base-line subscription and then a subsequent transactional charge based on usage

- By work package
 - Whereby individual work packages are priced on the basis of the specific outcomes required and the nature, diversity and size of the input data sets
 - Time and material basis on a specific service
 - Fixed price based on an individual requirement and specified outcomes/service levels

Here are some examples of typical pricing regimes:

- The supply of digital map information under the terms of the Government PSMA licence range from an annual licence fee of £100 to £500 dependent on member type
- Supply of mapping data as WMS feeds – typically ranging from £1,500 to £20,000 per year based on usage and number of users
- Visualisation and Query of mapping data via interactive web mapping application through common web browsers – ranging from £1,500 to £20,000 per year based on usage and number of users
- More complex bespoke analyses using geographic data inputs and geo-processing tools start at £5,000 upwards – typical complex customer analyses range from £50,000 to £250,000
- Fully secure advanced and complex geospatial cloud services: annual charges typically range from £100,000 to £500,000

At the point whereby a framework customer requires a particular geographic service, we will provide a quote/proposal under the terms of the framework. At this point we propose the most appropriate commercial model based on:

- Individual customer requirements
- The model providing best value to the customer
- The nature of the service required and associated outcomes
- The complexity of the service (for example the nature of geospatial analysis) and the size, diversity and quality of any customer input data
- What volume discounts we can provide
- The scope of the service required (for example a national, regional or local area of interest)
- What (if any) enhanced service levels may be required – for example enhanced DR and resilience capability, enhanced IL-levels, extended operational hours or higher service levels (e.g. 24x365x99.99%)

At the same time we will confirm service levels, and KPIs to define and measure the service and an associated set of service credits for non-performance.

We find our customers much prefer this tailored approach to pricing as it allows choice and can be tailored to a very wide range of requirements. Our experience is that no two customers require exactly the same service or pricing mechanism.