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GEOSPHERE

INFRASTRUCTURE OPERATIONS SUITE



GEOSPACES

MONITORING & COMPLIANCE

G-Cloud 15

GeoSpaces Service Definition

Presented by: GeoSphere

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The GEOSPHERE

Overview

The GeoSphere Infrastructure Operations Suite is designed for multi-site and infrastructure operators to simplify managing compliance, energy, and maintenance.

Think of GeoSphere like Office 365® for your operations: a suite of solutions from one vendor, configured to your challenges rather than one-size-fits-all. This integrated approach provides a comprehensive overview and estate-wide control, enabling intelligent decision-making and streamlined operations.

Standalone, each solution solves a specific problem.

Together, they create a hyperconnected operating system for buildings & infrastructure.

The Geosphere includes:

GeoSpaces

Monitors building performance to ensure comfort, efficiency and compliance with legislation. Key capabilities include damp and mould prevention, water leak detection, indoor air quality monitoring, and space usage optimisation.

GeoEnergy

Combines AI-powered automation with human expertise to reduce energy consumption across your entire estate. Connect, collect and analyse energy data in one place, with adaptive IoT control that learns and optimises continuously.

GeoWorks

GeoWorks is a connected asset management platform for multi-site operators, combining maintenance workflows with native IoT and BMS integration to enable proactive, condition-based maintenance across property and infrastructure estates.

Discover more at thegeosphere.com

The Mountain IoT Group

GEOSPHERE is a key division of the Mountain IoT Group, a leader in innovative technology solutions that has maximised operational efficiency and sustainability for multi-site operators since 2010.

The Mountain IoT Group's mission is to harness the power of IoT, machine learning, AI and data analytics to revolutionise business operations, enabling them to achieve greater efficiency, reduce costs, and foster environmental stewardship.

Discover more at mountain-iot.io

Trusted by Many

Our solutions have been proven in a number of different industries. You can see some of our valued customers below:

 Global Cybersecurity Contract (USA)	 1600 Pubs	 Data Centers	 15 Sites
 631 Food Retail Locations	 355 Retail Locations	 420 Retail Locations	 150,000 Public Lights
 498 Retail Locations	 165 Education Sites	 485 Retail Locations	 240 Retail Locations
 UK's Largest Rail Operator - 330 Sites	 Asset Management – 40 Stations	 Thames Barrier	 500+ Hospitality Sites

GeoSpaces Overview

GeoSpaces is a cloud-hosted environmental monitoring and analytics service designed for public-sector estates, including schools, housing, NHS, and local-authority portfolios. It enables organisations to understand how buildings are used and how they perform, using real-time and historic sensor data to support regulatory compliance, occupant wellbeing, energy efficiency, and informed operational decision-making.



GeoSpaces is procured, priced, and delivered as a standalone service. No other GeoSphere products are required.

GeoSpaces Modules

GeoSpaces is delivered as a single, cloud-hosted platform. In practice, its capabilities are commonly applied through the following solution modules. These modules describe how GeoSpaces is used to address specific operational and regulatory needs; they are not separate products and can be deployed independently or in combination.

Damp and Mould

Continuous monitoring of temperature and humidity to identify conditions associated with damp and mould risk, supporting early intervention and evidence under Awaab's Law.

Thermal Comfort & Indoor Air Quality (IAQ)

Room-level monitoring of CO₂, temperature, and humidity to support ventilation assurance, thermal comfort, and occupant wellbeing, including BB101 requirements.

Leak Detection

Monitoring of leak and moisture indicators to identify potential water ingress or leaks, reducing the risk of damage and unplanned reactive maintenance.

Occupancy and Space Utilisation

Use of occupancy indicators to understand how spaces are used in practice, supporting space utilisation insight and occupancy-aware performance analysis.

Server Room Temperature & Humidity

Targeted monitoring of temperature and humidity in critical IT and server environments to reduce the risk of equipment failure and service disruption.

Energy Monitoring

Planned future capability to support energy monitoring and analysis. This module is under development and is not currently offered for sale.

Users & Use Cases

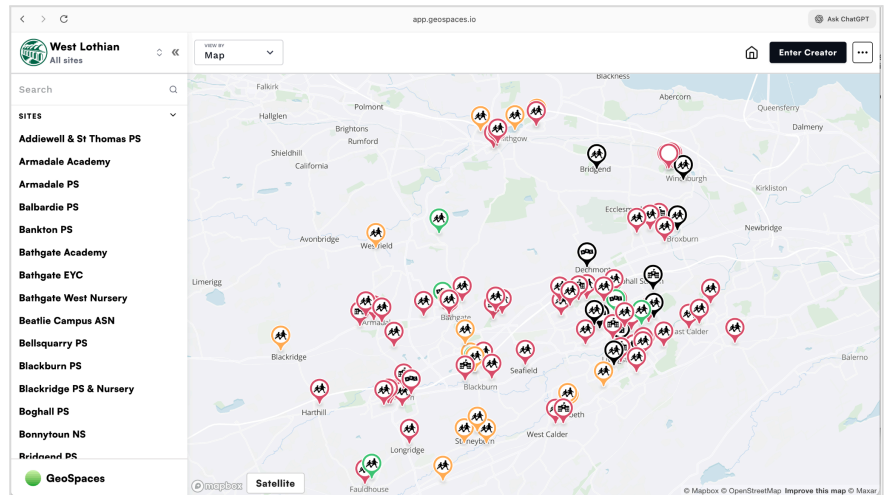
Typical Users

- Estates and Facilities Teams
- Compliance and Assurance Managers
- Sustainability and Net-Zero Leads
- Housing and Property Teams
- Education and Public-Sector Programme Leads
- Senior Leadership and Governance Teams

Common Use Cases

These use cases are delivered through continuous, room-level monitoring of environmental conditions and space usage. GeoSpaces is designed to capture consistent data across entire estates, enabling organisations to move from isolated measurements to ongoing assurance and evidence-based decision-making.

- Indoor air quality and ventilation assurance
- Classroom monitoring and BB101 compliance
- Damp and mould risk identification under Awaab's Law
- Occupancy-led heating and energy optimisation
- Portfolio-level benchmarking and reporting
- Evidence generation for audits, inspections, and funding programmes

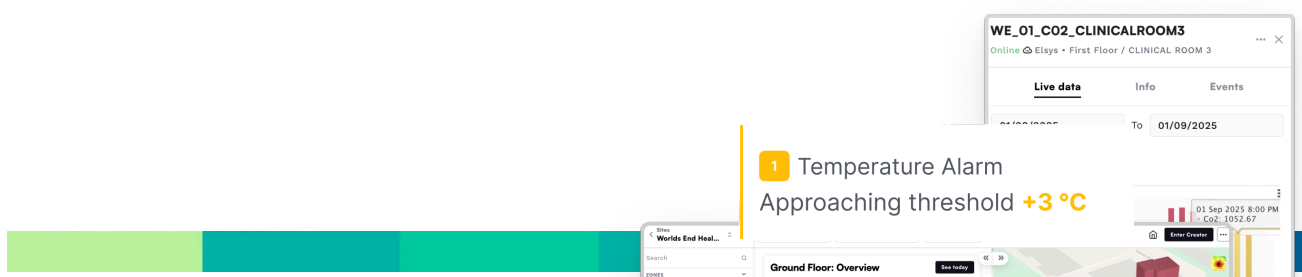


Data Captured

GeoSpaces captures environmental and usage data at room, building, and estate level, including:

- CO₂ concentration
- Temperature & Relative humidity
- Leak & Moisture
- Occupancy and presence indicators
- Time-based usage and persistence metrics

Sensors are typically deployed at room level and operate over low-power networks, supporting long device lifespans and minimal maintenance requirements.



Analytics and Reporting

GeoSpaces converts raw sensor data into actionable insight through:

- Dashboards
- Trends
- Threshold-based identification of risk conditions
- Scheduled and ad-hoc reporting for different stakeholder groups

The platform is designed to distinguish isolated events from persistent issues, allowing organisations to prioritise investigation and intervention.

AI-assisted operations and automation

GeoSpaces can include an AI-assisted operations layer that helps teams convert high-volume sensor data into managed action. The service continuously analyses trends and persistence to distinguish isolated events from issues that warrant intervention (for example sustained poor air quality, confirmed device offline conditions, or persistent leak indicators), and presents outcomes in clear operational language at room, building, or portfolio level.

Where configured, validated findings can notify the appropriate teams or integrate with GeoWorks or other workforce management systems to automatically create structured tasks (via API/JSON), assign ownership, and track progress to completion under SLA. This ensures monitoring leads to accountable follow-through and auditable outcomes, not just alerts.

All automation is configurable, permissioned, and logged to support governance and audit requirements.

Regulatory and Standards Support

GeoSpaces supports multiple regulatory and policy requirements using a single, continuously monitored sensor estate, reducing duplication while ensuring consistent, auditable evidence across compliance, wellbeing, and energy objectives

BB101 – Ventilation in Educational Buildings

GeoSpaces identifies classrooms that breach BB101 ventilation thresholds, enabling targeted remediation and evidence-based reporting.

Awaab's Law – Damp and Mould Risk

The same environmental sensors used for ventilation and comfort monitoring are also used to support emerging requirements under Awaab's Law. Continuous monitoring of temperature and humidity provides early indicators of conditions associated with damp and mould risk, supporting prioritisation and intervention.

Energy Efficiency and Net-Zero Objectives

GeoSpaces data enables organisations to identify buildings and rooms where heating systems are operating while spaces are unoccupied. This supports targeted corrective action, helping reduce energy consumption, associated carbon emissions, and operational costs, without additional hardware deployment.

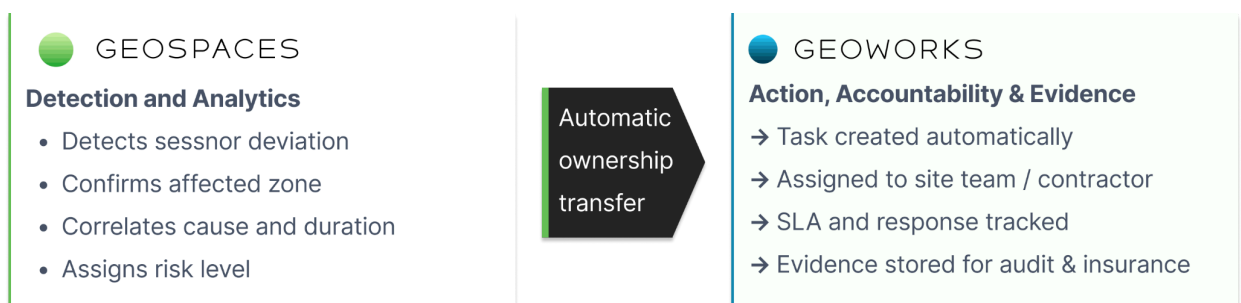
Integration with GeoWorks

GeoSpaces can integrate with GeoWorks to ensure that identified risks and insights result in managed actions rather than passive alerts. GeoSpaces remains focused on monitoring, assurance, and evidence, while GeoWorks provides structured task management, ownership, and outcome tracking where operational follow-through is required.

When integrated:

- Issues identified in GeoSpaces can trigger actions or investigations
- Responsibilities can be assigned and tracked
- Outcomes can be evidenced and reported

GeoSpaces does not require GeoWorks in order to function and can be procured as a standalone service.



GeoSpaces analyses data from distributed environmental and occupancy sensors to identify persistent risks, patterns, and compliance issues through correlation and trend analysis.

Where required, validated insights—not raw sensor readings—may be passed to GeoWorks to create actions, assign responsibility, track progress, and evidence outcomes.

Security and Hosting

GeoSpaces is hosted in a secure UK-based cloud environment aligned with public-sector security expectations.

- Encrypted data in transit and at rest
- Role-based access control
- Secure API access
- Alignment with Cyber Essentials Plus controls

Service Availability and Support

GeoSpaces is provided as a managed SaaS service with defined service levels and support during UK business hours. Optional enhanced support and onboarding services are available.

Onboarding and Professional Services

Optional professional services are available to support deployment and adoption, including:

- Sensor installation and commissioning
- Network integration (e.g. SWAN)
- Platform configuration and dashboard setup
- User training and enablement

Offboarding

On termination of the service, customers can receive an export of their data, including historic environmental data and configuration, in an agreed format.

Features & Benefits

GeoSpaces provides continuous, room-level environmental and occupancy insight across public-sector estates. The platform converts sensor data into structured evidence that supports regulatory compliance, wellbeing, energy efficiency, and informed operational decision-making.

The features below describe how GeoSpaces delivers these outcomes in practice, and the benefits each capability provides to public-sector organisations.

Cloud Monitoring Platform

GeoSpaces is a cloud-hosted monitoring and analytics platform designed to ingest, store, and analyse high-frequency environmental and occupancy data from distributed sensor estates. The platform provides real-time and historic visibility at room, building, and portfolio level.

Purpose:

A single, secure platform for understanding how buildings perform and are used, without reliance on manual inspection or disconnected systems.

Continuous Environmental Assurance

GeoSpaces continuously monitors environmental conditions such as CO₂, temperature, and humidity, enabling organisations to maintain ongoing assurance rather than periodic checks.

Purpose:

Ensures conditions remain aligned with regulatory, wellbeing, and operational expectations over time, not just at inspection points.

Insight-Led Intervention

GeoSpaces identifies persistent or systemic issues through trend and persistence analysis, rather than reacting to isolated events or complaints. This enables earlier, evidence-based intervention before issues escalate.

Purpose:

Shift from reactive response to proactive risk management.

Regulatory Evidence and Reporting

GeoSpaces generates structured, auditable environmental data that supports regulatory and policy compliance, including **BB101** and **Awaab's Law**. Evidence and reports can be produced at room, building, or estate level to support audits, inspections, and internal governance.

Purpose:

Demonstrate alignment to regulation with evidence, not anecdote.

Portfolio-Level Benchmarking

GeoSpaces enables comparison of performance across buildings, schools, or housing stock, highlighting outliers and systemic issues that warrant prioritisation.

Purpose:

Support strategic prioritisation and investment decisions across large estates, rather than isolated, site-by-site management.

Occupancy-Aware Performance Analysis

GeoSpaces correlates environmental data with occupancy indicators to understand how spaces are actually used, including identifying rooms that are heated, ventilated, or conditioned while unoccupied, or overcrowded during periods of use.

Purpose:

Supports energy efficiency, cost reduction, and net-zero objectives using real usage data rather than assumptions or schedules.

Action Enablement via GeoWorks

Where integrated with GeoWorks, validated insights generated by GeoSpaces can be passed into structured actions, investigations, or follow-up tasks. GeoSpaces remains focused on monitoring, assurance, and evidence, while GeoWorks manages ownership, tracking, and outcomes.

Purpose:

Ensure that insight leads to accountability and outcomes, without embedding maintenance workflows into the monitoring platform.

Low-Power, Long-Life Sensor Estate

GeoSpaces supports low-power sensor technologies (e.g. LoRaWAN), enabling multi-year device lifespans, minimal maintenance requirements, and scalable deployment across large public-sector estates.

Purpose:

Reduce operational overhead and total cost of ownership for large sensor estates

Other Services

GeoSpaces is provided as a cloud-hosted SaaS service. In addition, GeoSphere offers optional professional services to support deployment, configuration, and adoption where required. These services are not mandatory and can be procured separately.

Sensor Deployment and Commissioning

GeoSphere can support the physical deployment, installation, and commissioning of environmental and occupancy sensors across customer estates. This includes site surveys, sensor placement guidance, and validation to ensure data quality from day one.

Network Integration

Where required, GeoSphere can support customer-led integration with existing public-sector or private networks, including LoRaWAN-based infrastructure such as the Scottish Wide Area Network (SWAN). This ensures secure, reliable data transmission aligned with customer connectivity standards.

Platform Configuration and Dashboard Design

GeoSphere can configure GeoSpaces to reflect customer priorities, including dashboard layouts, thresholds, insight rules, and reporting structures aligned to regulatory, operational, or sustainability objectives.

User Training and Enablement

Training services are available to support estates, compliance, and operational teams in understanding and using GeoSpaces effectively. This includes onboarding sessions, role-based training, and guidance on interpreting data for decision-making.

Integration and Automation Support

Where GeoSpaces is integrated with GeoWorks or other third-party systems, GeoSphere can provide configuration and integration support to ensure that validated insights flow into operational workflows in a controlled and auditable manner, using supported APIs and documented integration patterns.

Why GeoSpaces

GeoSpaces exists to address a fundamental challenge faced by public-sector organisations: the need to understand how buildings are actually performing, and how they are used, in order to meet regulatory obligations, protect occupant wellbeing, and manage estates responsibly.

Designed for regulation, not dashboards

GeoSpaces is designed around regulatory and policy requirements, not generic visualisation. It provides structured, auditable evidence that supports compliance activities, inspections, and internal governance, rather than relying on spot checks, manual surveys, or anecdotal reporting.

One sensor estate, multiple outcomes

A single deployed sensor estate can support multiple objectives simultaneously, including ventilation assurance, damp and mould risk identification, energy efficiency, and portfolio benchmarking. This reduces duplication, lowers operational overhead, and enables consistent evidence across different regulatory and performance requirements.

Scales to real public-sector estates

GeoSpaces is designed to operate at scale across large, complex public-sector estates, supporting thousands of rooms and multiple building types within a single platform. Insights can be reviewed at room, building, or portfolio level, enabling both local intervention and strategic prioritisation.

Insight that leads to action (when required)

GeoSpaces focuses on monitoring, assurance, and evidence. Where operational follow-through is required, validated insights can be integrated with GeoWorks to support structured actions and outcome tracking. GeoSpaces operates independently and does not require GeoWorks to function.

Built for public-sector trust

GeoSpaces is delivered as a secure, UK-hosted SaaS service, with clear data ownership, defined service levels, and transparent security controls. It is designed to support long-term public-sector use, auditability, and accountability.

What Next?

GeoSpaces is designed to be simple to procure and quick to deploy through G-Cloud. Following contract award, GeoSphere works with customers to confirm scope, priorities, and the most appropriate deployment approach for their estate.

- 1** Initial onboarding typically includes confirmation of buildings and spaces in scope, sensor deployment or integration with existing infrastructure, and configuration of dashboards, thresholds, and reporting aligned to regulatory, operational, or sustainability objectives.
- 2** GeoSpaces can be deployed incrementally, allowing organisations to start with priority buildings or use cases and expand across wider estates over time. Where required, optional integration with GeoWorks or other systems can be configured to ensure validated insights lead to managed actions and evidenced outcomes.
- 3** The service is designed for long-term use, providing continuous insight and auditable evidence as regulatory requirements and organisational priorities evolve.

Technical

GeoSpaces is delivered as a cloud-hosted Software-as-a-Service (SaaS) platform designed for use within public-sector IT environments. The service is accessed via standard web browsers and does not require local software installation, specialist hardware, or on-premise infrastructure.

The platform is designed to integrate with existing public-sector networks, identity systems, and sensor estates, while maintaining clear separation between data ingestion, analytics, access control, and downstream integration. This approach supports secure deployment, simplified IT approval, and scalable operation across large estates.

Supported environments:

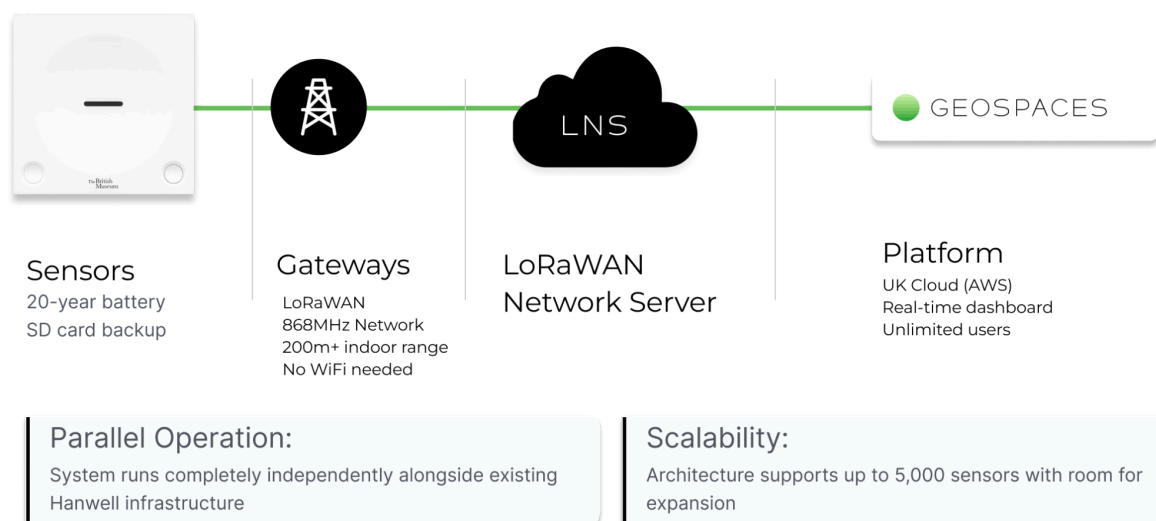
- Modern desktop or laptop device
- Latest versions of Chrome, Edge, Firefox, or Safari
- JavaScript enabled
- Cookies and local storage enabled
- Secure HTTPS access (port 443 outbound)
- Recommended display:
 - Minimum resolution: 1366 × 768
 - Recommended resolution: 1920 × 1080 or higher for dashboards and portfolio views

No mobile application is required. GeoSpaces is optimised for desktop and tablet use where data analysis, reporting, and oversight activities are typically performed.

Connectivity

GeoSpaces requires an internet-connected device. Typical bandwidth requirements are modest and suitable for public-sector networks.

- Recommended bandwidth: 5–10 Mbps per active user
- Stable wired or Wi-Fi connection
- Latency <100ms recommended for optimal dashboard responsiveness
- Sensor and Data Ingestion Architecture



GeoSpaces ingests data from low-power environmental and occupancy sensors deployed across customer estates. Sensors typically operate over secure low-power wide-area networks such as LoRaWAN, including public-sector infrastructure (e.g. SWAN) or customer-owned networks.

Data is transmitted securely to the GeoSpaces cloud platform, where it is stored, processed, and analysed. GeoSpaces is network-agnostic and does not mandate a specific sensor manufacturer, provided devices meet supported data and security requirements.

Authentication and Access Control

GeoSpaces supports role-based access control to ensure users only see data relevant to their responsibilities.

Where required, single sign-on (SSO) can be enabled using customer identity providers (e.g. Microsoft Entra ID). Alternative authentication approaches can be supported subject to customer requirements.

APIs and Integration

GeoSpaces provides secure APIs to support integration with other systems, including optional integration with GeoWorks where organisations wish to convert insight into tracked actions.

API access is authenticated and logged to support audit and governance requirements.

Device and Platform Independence

GeoSpaces does not require:

- Specialist hardware for end users
- Local databases
- On-premise servers
- Client-side software installation

This ensures rapid deployment, simplified IT approval, and minimal operational overhead

Information Security

GeoSpaces is designed and operated in line with public-sector information security expectations. GeoSphere applies a risk-based approach to information security, implementing appropriate technical and organisational controls to protect customer data, maintain service availability, and support audit and assurance requirements.

Information security controls are reviewed regularly and aligned with recognised UK and international standards. Customers can request further detail on security policies, controls, and assurance arrangements where required.

CyberEssentials+

CyberEssentials+ is a UK Government-backed, industry-supported scheme to help organisations protect against common online threats. GEOSPHERE undergoes an annual assessment for CyberEssentials+ certification, verifying that we have implemented security controls across five key areas:

- Secure internet connection
- Secure devices and software
- Access control
- Malware protection
- Patch management

By maintaining CyberEssentials+, we demonstrate our commitment to preventing common cyber-attacks, protecting our infrastructure, and safeguarding customer data.



Mountain IoT Ltd

Certificate Number:

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ISO 27001:2022

GEOSPHERE is working towards ISO 27001:2022 certification, the international standard for information security management systems (ISMS), with certification targeted for Q3 2026. An ISMS is in place and defines the policies, procedures, and controls used to identify, assess, and manage risks to information security.

The ISMS covers areas including risk assessment and treatment, asset management, access control, cryptography, operations security, supplier relationships, incident management, and business continuity. Progress towards certification is reviewed as part of ongoing governance and assurance activities.

Disaster Recovery

GeoSpaces is supported by a defined disaster recovery and business continuity approach designed to minimise service disruption and data loss in the event of a major incident. Disaster recovery arrangements are aligned with public-sector availability expectations and are tested, reviewed, and improved through regular governance and post-incident analysis.

INCIDENT PRIORITY	DESCRIPTION	TARGET RTO
CRITICAL – FULL SYSTEM OUTAGE	Complete loss of access to the GeoSpaces production environment affecting all customers and core services.	Restore within 8 working hours
HIGH – PARTIAL OUTAGE	Degradation or loss of specific core services, modules, or functionality impacting a significant portion of customers.	Restore within 24 working hours
MEDIUM – MINOR DATA ISSUES	Limited data inconsistencies, minor corruption, or isolated issues with minimal operational impact.	Resolve within 5 working days

Recovery Point Objective

The Recovery Point Objective (RPO) defines the maximum acceptable amount of data loss measured in time. Current data protection controls are structured as follows:

- The primary production server is backed up every **24 hours**, establishing a baseline RPO of up to 24 hours for full system restoration.
- File storage is hosted within a Microsoft Azure Storage Account and benefits from built-in versioning and immutability controls, reducing the risk of permanent data loss or corruption.

GeoSpaces employs the following backup and retention mechanisms to support recovery integrity:

- **Vault backups retained for 90 days** to allow long-term recovery options.
- **Point-in-time restore capability for up to 30 days**, enabling restoration to specific moments prior to an incident.
- **Soft delete enabled for 35 days**, allowing recovery of accidentally deleted data.

Service Levels

GeoSpaces is provided as a managed SaaS service with defined service levels to support operational continuity and effective use within public-sector environments.

The service levels below set out target response and resolution times for support requests, aligned to issue severity and operational impact.

REQUEST PRIORITY	DESCRIPTION (GUIDELINE)	TARGET
HIGH PRIORITY - URGENT	A report of an issue that has prevented operations from continuing.	Response: 4 hours Resolution: 24 Hours
MEDIUM PRIORITY	Report of a non-blocking issue or request for support	Response: 8 Hours Resolution: 48 Hours
LOW PRIORITY	Report of a visual issue or request for information about the product	Response: 24 Hours Resolution: 5 Working Days

GeoSpaces aims to be available and functional when your team needs it. Therefore, we aim for **99.9%** availability of our product. Customers receive access to an availability monitoring dashboard so that you can track availability and be the first to receive any updates.

Users can get in touch between 9AM and 5PM, Monday to Friday via email, phone or using our dedicated support platform.

Further detail on service level arrangements can be provided on request.