

Data Sheet

GIS asset management and the power of lines and polygons

Accurate geospatial data, informed decisions, better asset management



Asset management teams traditionally prioritize managing asset details such as inspection history, maintenance schedules, or conditions, but overlook the importance of spatial context. Enterprise Asset Management (EAM) platforms track asset lifecycle and maintenance data well, but often treat geospatial information as secondary or optional.

Yet location is fundamental to asset management. Assets exist within networks, along clearly defined routes, and within specific boundaries: spatial relationships that single-point data cannot fully represent. Ignoring spatial context creates gaps, leading to incomplete information, duplicated efforts, or flawed decision-making.

GIS Asset Management: Integrating asset and geospatial data

Traditional asset management serves two distinct needs: EAM professionals, who focus on asset records and maintenance workflows, and GIS professionals, who rely on detailed geospatial data for mapping and analysis. The disconnect between these priorities often creates inefficiencies, redundant processes, and data silos.

GIS Asset Management (GISAM) resolves this issue by making geospatial data a core part of asset management workflows. Unlike conventional approaches, GISAM ensures spatial data is integrated at every step, delivering a unified system where both asset and geospatial data work together seamlessly.

Why lines and polygons are essential to GISAM

GISAM relies heavily on two core spatial data types: lines and polygons. To clearly understand their importance, consider how they differ from traditional single-point asset data:

► Lines

Lines represent linear assets such as water mains, fiber optic cables, power lines, or inspection routes. They reveal how individual assets connect, flow, or interact across extensive networks.

► Polygons

Polygons capture boundaries, areas, or spatial extents. These may include service zones, environmental protection areas, property boundaries, easements, or buffer zones around infrastructure. Polygons clearly define responsibility, ownership, or protection areas.

Collecting accurate line and polygon data involves specialized capabilities. It requires field tools that can capture precise shapes, lengths, areas, and boundaries, not just simple points.

How GISAM improves asset management workflows

Integrating lines and polygons into your asset management workflow brings clear advantages, including:

- ▶ **Better asset relationships**

Visualize how pipelines connect, where easements overlap, or how multiple utilities coexist within the same geographic area.

- ▶ **Accurate boundary and area information**

Define asset footprints and service areas with clear spatial boundaries. Identify private properties, utility corridors, project areas, rights-of-way, and state, county, or local jurisdictions that contain specific assets or infrastructure.

- ▶ **Precise inspection documentation**

Capture inspection routes clearly using GPS paths, creating robust audit trails showing exactly which areas have been inspected and maintained.

- ▶ **Automatic spatial measurements**

Instantly calculate distances, lengths, buffer zones, and coverage areas as field teams capture line and polygon data.

- ▶ **Detailed environmental context**

Clearly delineate protected zones, buffer areas, and other polygonal regions to ensure compliance and accurate records.

Real-world GISAM applications

GIS asset management, driven by lines and polygons, delivers real-world value across industries and use cases, such as:

- ▶ **Utility network mapping**

Document power grids, gas lines, or water systems as interconnected line-based networks with clear, accurate boundaries for inspections and repairs.

- ▶ **Vegetation and encroachment management**

Define polygon-based buffer zones around infrastructure, simplifying identification and remediation of potential vegetation threats.

- ▶ **Infrastructure easement management**

Accurately define right-of-way corridors, utility easements, or service routes, simplifying compliance and clarifying responsibilities.

- ▶ **Environmental compliance**

Map sensitive areas such as wetlands or habitats. Define polygons that clarify boundaries and simplify regulatory compliance.

- ▶ **Asset condition inspections**

Track exact inspection routes for linear infrastructure (pipelines, roads) or clearly defined areas (parks, campuses), creating detailed location records that simplify audits and maintenance planning.

The future of asset management is geospatial

Asset management without geospatial data leaves gaps. Without lines and polygons, it's impossible to see how assets connect, where boundaries exist, or how infrastructure fits into its surroundings.

GISAM ensures that asset records aren't just accurate but spatially complete. With a clear view of networks, coverage areas, and asset relationships, organizations can eliminate blind spots, reduce errors, and improve planning.

Understanding where assets are is just as important as knowing their condition. GISAM makes that possible.

Get started with GISAM

Errors happen when asset management lacks geospatial context. Fulcrum helps teams integrate GIS data directly into asset workflows, reducing mistakes and improving planning. See how it works — [schedule your free custom demo today](#).