Helping Light Rail Operators Optimize Processes by Location

As a light rail operator, you are increasingly required to produce intelligent railway information and share it across the enterprise, with the public, or with government agencies. Effectively managing the spatial dependencies of all light rail assets and networks in a map context is critical to providing comprehensive information.

GeoTrAMS is Hexagon’s Geospatial Transportation Asset Management System that enables you to visualize all your infrastructure, such as stops, switches or points, common crossings, expansion joints, and the track system itself. GeoTrAMS is one of the few web-based systems for tram and light-rail infrastructure that includes a standard GIS platform, so you can integrate it with your existing asset management or works management systems. With GeoTrAMS, you can document the entire rail track network, as well as the switches, crossings, rail and movement joints, and manage all stopping points, including timetables, plates, and signage.

Benefits of Mapping Your Inventory of Network Assets

- **Consistent management of all infrastructure assets**
- **Easy identification of assets needed for maintenance or repair procedures**
- **Geographical analysis of fault and wear trends**
- **Clear relationships between performance of assets (for example, track subsidence related to blocked drainage)**
- **Real-time view of work in progress**
- **Efficient planning and scheduling of engineering work and repairs**

Access All Enterprise Data from One Source

Rail infrastructure in its complexity and diversity is like a city and not only because of its vast expanse. The volume of infrastructure data is often spread across multiple business systems and in various formats, which can lead to inconsistencies.

Customers of Hexagon’s Geospatial division – from light rail to metro to tram systems operators – can display multi-source data in one map view. This includes data from various business systems, including asset and works management systems, allowing you to visualize and run analytics on the entire system.

Hexagon’s software connects to multiple data sources directly, without the need for any preprocessing that would put the system at risk for delays or out-of-sync data. It can even display rail transport networks in different representations, such as true map views, geo-schematics, or straight-line diagrams.

In GeoTrAMS, planning data as well as the route network are managed centrally and can be used by all authorized employees within all departments of the agency.
Prioritize Maintenance Around Nearby Assets

Spatial reference is a critical factor in streamlining the GeoTrAMS system. For all infrastructure objects, there is a feature capturing the "where," which is linked to the "what," "when," "how often," and other attributes. To that end, non-graphic objects like processes can also be assigned spatially by their references to graphical objects.

Understanding the conditions of your assets in their locations lets you rank areas of your network by priority. For example, the system can provide answers to questions regarding the locations of areas that have both congestion issues and poor pavement. You can schedule maintenance in the areas that require the most attention first. Conveniently, maintenance scheduled in nearby areas can often be handled at the same time or consecutively.

Advanced Analytics for Management, Analysts, and the Public

Whether your data is accessed from an executive's dashboard, an analyst's workbench, or a public portal that displays the information you want to share with the community, our web-based tools help you answer critical questions such as:

- Is the transportation network functioning smoothly?
- What challenges need attention?
- Are calculated budgets being met?

With our light rail solutions, analysts have full access to the industry's richest transportation analysis toolset. Meanwhile, the public has easy access to traffic and rail/road conditions. The GeoTrAMS reporting tool can provide executive management with the most current and accurate updates on weather predictions, the status of construction projects, and other relevant traffic data.

Tools for Modeling Your Network

Linear Reference Systems (LRS), routing, and support for multiple linear referencing methods and multiple geometric representations are included for building and maintaining a digital network model for transportation systems. GeoTrAMS maintains strict accuracy in updating the locations of asset data even after changes are made in the network by dynamic segmentation. The system also provides access to video logging, dynamic graphs, and straight-line diagrams to give you a complete operating picture of the transportation network.

Easily Implement Agency Workflows

Create your own step-by-step workflows that are easy to use and help you input valid data that meets industry and company standards, while maintaining data security. With GeoTrAMS, you have complete access to the data you need to fulfill a task or mission. Once you are granted access to your specific user role, all the necessary data is at your fingertips.

- Information is available in real time; no data warehousing is needed.
- You can print reports, view results on a map, and export data for further analysis.
- Non-GIS users can use the intuitive GIS functions to perform area, range, and distance queries.
- Access and analyze data anywhere, anytime — so you can use up-to-date information to improve productivity.

GeoTrAMS provides infrastructure management, survey and control, web distribution, noise pollution evaluation, and geological evaluation for rail clients. It enables you to use powerful GIS functions to manage maintenance processes and support the integration and sharing of company information.

As a light rail operator, you can effectively use GeoTrAMS to visualize the spatial dependencies of all your light rail assets and networks in a map display with your asset or works management systems. This lets you optimize your network processes, such as maintenance performance, as well as share relevant railway information across the enterprise, with the public, or with government agencies.

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About Hexagon

Hexagon is a global leader in sensor, software and autonomous solutions, providing technologies that are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon’s Geospatial division creates solutions that deliver a 5D smart digital reality with insight into what was, what is, what could be, what should be, and ultimately, what will be.

Hexagon (Nasdaq OMX Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 4.3bn USD. Learn more at hexagon.com and follow us @HexagonAB.