PRODUCT SHEET

Octave Alto Mass Transit

Benefits

Authoritative network data access and editing: Enable teams to create, edit and maintain transit network and infrastructure data within a shared, GIS based and LRS-accurate environment

Topology-based infrastructure mapping: Visualize tracks, routes, stations and related elements as connected networks, preserving spatial and linear relationships across the infrastructure

Field data capture with spatial context: Allow field teams to capture and update infrastructure and asset data directly in the field, ensuring changes are accurately reflected in the network model

Network-aware insights for planning and analysis: Use geospatial processing and linear referencing to analyze conditions and impacts along routes and across the network

Cross-department collaboration with a shared network view: Support teams with a single, authoritative geospatial representation of the transit network

Workflow support for infrastructure-centric processes: Streamline infrastructure planning, coordination and validation processes by working from one authoritative network model

Interoperability with EAM systems: Share and synchronize data with existing and new EAM systems, connecting spatial network context with asset lifecycle and maintenance processes

Public transport networks are complex. An error or delay in one segment can cause a ripple effect down the line – for the transport provider and the public. To manage this complexity, transportation agencies rely on different, often disconnected data sources spread across multiple systems, departments and formats. Typically, it's difficult to align data with the actual structure of the network, making it hard to gain a shared, accurate view of how infrastructure is connected and how changes impact the whole network.

Without a consistent spatial and linear context, teams struggle to coordinate across departments, plan infrastructure changes and understand dependencies within the network. In an industry where efficiency and sustainability are critical, modern solutions that provide a shared, spatially accurate and network centric understanding of infrastructure are essential.

See and manage your transit network in its true context

Octave Alto Mass Transit (formerly HxGN Mass Transit) is a topology-based, GIS- and linear referencing system (LRS)-driven solution that helps agencies model, visualize and manage public transportation infrastructure.

By providing an authoritative, LRS-accurate network model, it enables teams to understand how infrastructure is connected and how changes impact the entire network, helping transit systems address current and future challenges efficiently.

This network model serves as the foundation for a digital twin of the transit infrastructure. Field teams can capture and update asset data in real time via mobile apps, keeping the digital twin accurate without requiring GIS specialists on-site.

Additionally, Alto Mass Transit offers specialized modules for managing network-based infrastructure, including networks, tracks, stations, electrification and construction, all maintained within a shared spatial context.

Alto Mass Transit complements enterprise asset management (EAM) systems by adding a geospatial, topology-driven view of infrastructure. It focuses on where assets exist and how they relate within the network, while EAM systems manage how those assets are maintained and governed over time, connecting spatial network intelligence with enterprise asset lifecycle management in one seamless solution.

Purpose-built to deliver a clear and accurate understanding of transit infrastructure in its network context

Modules

Alto Mass Transit's modular system is built around a shared network model, enabling agencies to manage infrastructure in its true spatial context. The modules can be configured to support specific operational needs while maintaining a unified and consistent network view.

Network Management

Facilitates the creation and maintenance of a digital transportation model, using LRS to define lines, routes and network segments, while also allowing for nomenclature adjustments and network imports, incorporating topology-based modeling and batch-LRS calculations of any asset type across the network

Track Characteristics

Enables spatial representation and analysis of track-related elements within a topology-based network model, including control points, switches and track properties, maintained in an LRS-accurate network context

Station Management

Centralizes management of station-related spatial data, including platforms, stops and associated infrastructure, maintained in relation to the surrounding network

Electrification

Manages GIS-based modeling of electrification infrastructure, including masts, overhead lines, power supply elements and voltage sections, maintained within the network model

Construction

Facilitates spatial tracking and documentation of construction sites, tunnel works and infrastructure changes, enabling visibility of planned, ongoing and completed modifications within the network

Each module plays a vital role in modernizing transit systems and driving efficiency. These tools not only optimize daily operations, but also set the foundation for future-proofing transportation networks. Moreover, the customizable workflow within Alto Mass Transit allows agencies to create tailored modules that meet their specific transportation system needs, ensuring flexibility and scalability.

Unlike general purpose GIS platforms, Alto Mass Transit is purpose-built for public transportation infrastructure, with dedicated data models and workflows tailored to linear, network-centric transit environments.

Find out more

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.