



Breakthrough EPC RTLS System

The market's first UHF passive RFID Real Time Location System (RTLS), the Mojix® eLocation™ solution combines the superior economics of passive RFID and the scalable data collection and advanced multi-dimensional signal processing of the Mojix STAR™ system. The eLocation system can accurately locate EPC passive RFID tagged objects in real time to as close as one meter, indoors or outdoors, for truly cost-effective real-time location and tracking of materials, goods, processes and assets.

Changing the face of real-time asset tracking

The desire by businesses to track high-value goods and other assets using wireless devices has resulted in a high growth yet highly fragmented market. Over the past two decades, expensive proprietary devices have proliferated, delivering widely varying levels of performance, accuracy and ROI. Technical barriers to even adequate performance are formidable while economic barriers to widespread deployment remain high. That is, until now.

Revolutionary infrastructure

The Mojix eLocation solution represents a major functional and economic breakthrough for real-time location estimation and tracking, overcoming the traditional barriers to effective and cost-effective RTLS applications.

The eLocation solution is an extension of Mojix's revolutionary Mojix STAR system for reading EPC passive RFID tags. The STAR system, consisting of high-sensitivity STAR receivers each managing potentially hundreds of distributed, low-cost RFID tag-excitation points, called Mojix eNodes™. The STAR receiver extracts RFID tag data, and also information that can

be leveraged to pinpoint where a RFID-tagged item is located and to track its precise path over time.

The result is a single EPC and worldwide ISO standard based system for all supply chain management and asset tracking needs, delivering ubiquitous real-time visibility across all goods or assets, indoors or out, stationary or on the move.

Breakthrough economics

The ability for organizations to use inexpensive UHF passive RFID tags for real-time location tracking provides enormous economic advantages. These include:

- Avoidance of costly battery-powered "active" tags
- No need to special-tag items for location tracking in an existing passive RFID environment
- Cost-effective scalability for widespread coverage

Breakthrough performance

The STAR Receiver utilizes advanced signal processing technology to enable the Mojix eLocation solution. Through its ability to parse a combination of radio signal characteristics, the solution is able to locate and track tagged objects with an extremely high degree of accuracy – within as close as one meter depending on tag density, type of item and environment.

Through such advanced techniques, the eLocation solution successfully overcomes the many technical barriers that have traditionally inhibited RTLS performance and utility, such as multi-path, interference and non-stationary propagation environments.

Mojix eLocation: Constellation of high-value use cases

With attractive economics and superior performance assured, and with the confluence of reading passive RFID tags for identity, location and trajectory, the Mojix eLocation solution running on the Mojix STAR system enables a constellation of high-value use cases and applications, including:

Retail – Going far beyond conventional electronic article surveillance (EAS) systems, stores can now easily find products that have “migrated” from store back room to retail floor, from designated shelves, displays and departments. Shrinkage can be curtailed while items are still in-store with real-time monitoring of goods moving on the retail floor. And the exact location of items can be determined to optimize replenishment, returns and ordering of inventory.

Shipping docks – Complete real-time visibility is provided not only into items passing through doors, but also into items staged near doors and item passing by docks. Normal dock operations are supported, as well as exceptions, and the solution scales cost-effectively across all doors in a facility.

Outdoor areas – Assets are immediately located and tracked for accurate inventorying, loss prevention and more efficient operations across yards, lots, wharves and other outdoor areas, leading to increased yard throughput, faster dock door turns, improved productivity, enhanced outbound carrier selection, and elimination of unauthorized checkouts.

Work in progress – Manufacturers can increase product velocity, reduce inventory and achieve a more predictable flow on manufacturing lines through enhanced exception handling and real-time visibility into build status, resource utilization and misplaced materials and tools.

Mobile asset tracking – Movable enterprise assets can be easily tracked and managed across entire campuses for improved asset utilization, more efficient operations, better preventative maintenance and improved lease return processes.

Mojix eLocation Fast Facts:

- First UHF passive RFID Real Time Location System (RTLS)
- Software extension of the Mojix STAR system
- Leverages standards based ISO & EPC Gen 2 passive RFID technology for superior economics
- Overcomes traditional performance barriers to effective RTLS
- Up to one meter accuracy
- Enables a single standard for SCM and RTLS



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