

Centrally Controlled Vehicle

by Sky-Trax

Presently drivers spend about 80% of their time riding and 20% handling goods, leaving a large percentage of their time spent unproductively. To solve this problem, Sky-Trax envisions a new type and system of automated guided vehicle that does not have any fixed or pre-determined paths, does not need to be taught, can move like a driven fork lift from any point to any other point in your facility and is designed to work in existing warehouses utilizing the accuracy of the Sky-Trax Optical RTLS for automated vehicle guidance and tracking. As a bonus, this system is a free-roaming driverless vehicle system that can be used in either automated or manual modes. With the ability to know where all vehicles are and what they are doing, the new driverless vehicles will work safely and cooperatively with today's driven lift trucks; and will be remotely controlled by a central controller for real time routing.

This vision is driven by the big challenge faced by the industry to increasingly to do more with less labor and to make our current labor more productive and efficient.

A Vision Becomes Reality...

Although this concept may sound futuristic, Sky-Trax has already built and tested a first prototype system with all of these capabilities. Sky-Trax calls this new free-roaming driverless vehicle the Centrally Controlled Vehicle.

A Centrally Controlled Vehicle System (CCV) is a revolutionary system designed to bridge the gap between manned and automated vehicles allowing them to share the same work space through the utilization of the Sky-Trax Optical RTLS system for vehicle navigation.



A CCV system has the ability to precisely determine vehicle location in buildings, makes intelligent multi-vehicle routing decisions, and employs advanced collision avoidance software. Additionally, the CCV system communicates with all vehicles, automated and driven, to ensure they are directed for optimized paths and routing decisions. Each vehicle is operated as an asset in a system and not as an individual autonomous asset. This makes the CCV system intelligent, efficient, and safe.



The Goal...

The goal of a CCV system is to flip the productivity equation to 20/80 to enable drivers to work on material handling tasks (vertical handling) for most of their time and greatly reduce the time they spend on horizontal transport tasks. The new CCVs can autonomously move pallets between dock areas and rack storage areas, allowing the man driven vehicles to stay in the dock areas or rack aisles.

The Conclusion..

Sky-Trax Optical RTLS technologies can dramatically increase the productivity of the manned vehicles by incorporating automated vehicles to cooperatively exchange workloads. Given a common navigational domain, value added Distribution Center tasks can be allocated to automated vehicles using current technologies to extend and increase the workload of the automated fleet in a CCV system.