

System Report

Customer: ROYAL PLASTICS

Location: Hudsonville, Michigan

Equipment: 6 SideFork Style E'gv[®]s

- Side Fork Transfer Mechanism
- 2000 lbs. capacity

Installed: 2001

Guidance: Inertial

Battery: 48 Volt

- Lead Acid
- 12 Hour Run, Battery Swap



Guidepath Length: 10,500 feet.

System Description

Royal Plastics, Hudsonville, Michigan plant is a highly successful plastics molding company serving various industries with sub-assembly parts. The Royal Plastics system consists of six sidefork E'gv[®]'s. The vehicles, handle most of the raw material distribution and finished goods material movement. The E'gv[®] system utilizes the inertial guidance system and is incorporated into each vehicle. In addition, the system utilizes RF handheld operator call terminals (scanners) communicating with the Vehicle Facility Manager (VFM) E'gv[®] control system.

The manufacturing materials arrive in a truck and are manually unloaded by lift trucks. The lift trucks deliver the materials to various E'gv[®] pickup locations. Operators at the various manufacturing lines request materials or pickup of finished goods through the RF handheld operator call terminals. The vehicles are automatically dispatched to the correct location via the E'gv[®] control system. The E'gv[®] control system monitors E'gv[®] material movement throughout the entire facility. Communication from the E'gv[®] to the control system is through a 2.4 GHz Radio Frequency communications network. Once

the E'gv[®] has the pickup and delivery location it maneuvers through the facility by using an on-board Pentium class computer with a virtual guidepath map. The primary guidance system is the virtual map, however, the vehicle also uses Egemin's E'gv[®] Inertial guidance system. In addition to the virtual map, the vehicle detects small magnets strategically located throughout the facility to provide direct location information for each vehicle as they pass over the magnets. This exact position is then put with the virtual map of the facility and filtered to determine any corrections, which may required in guidepath location.

These vehicles use the Egemin sidefork transfer mechanism. All transfers are handled to the side of the E'gv[®] to facilitate increased material movement.

Special Features

- 2.4 GHz RF Communications
- SideFork transfers on each E'gv[®]
- RF Handheld Operator Call Terminals



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