CROWN

APPLICATION
OVERVIEW

Automation improvements can help reduce costs associated with internal movement of materials but non-conveyable items, those that cannot be transported on conveyor systems due to their size, shape or bulk, have traditionally required some form of labor-intensive transport system... until now.

Automation Can Reduce Cost and Increase Efficiency in Handling of Non-Conveyable Items

APPLICATION

In many material handling applications, horizontal travel accounts for the majority of product movement. Today's modern material handling operations have been optimised in many ways with equipment and processes designed to move product over these long distances without human intervention in warehousing, manufacturing and other process-oriented applications.

These automation improvements can help reduce the expense associated with the internal movement of materials. However, non-conveyable items, those that cannot be transported on conveyor systems due to their unique size, shape or bulk, can still require some form of manually-controlled transport.

CHALLENGE

Because non-conveyables require human intervention to facilitate their travel, many companies are considering how automation might be applied to this process. Though automation typically works best in applications with repetitive functions in predictable environments, flexibility is the name of the game in non-conveyable transport.

Automated solutions must deal with the dynamic nature of these environments, adapting to other traffic, pedestrian workers and dynamic changes in production plans in a safe, yet productive fashion. Traditional mobile automated systems typically require significant modifications to the infrastructure of the operation, so many companies choose to delay implementation due to the cost and complexity involved.

DUALMODE | T ™

SOLUTION

Crown's automated DualMode T tow tractor can provide a flexible alternative to manual transport of non-conveyable items in dynamic environments, without the investment in significant infrastructure. A series of carts towed by the automated tow tractor can be loaded by a worker, who then enters the stop locations into the vehicle's interface. The vehicle then traverses the facility – typically at speeds ranging from 3.0 to 4.5 miles per hour depending on environment – using natural feature navigation system, which can be deployed with little or no supporting infrastructure.

If the DualMode T tow tractor encounters an obstruction, it slows to a stop and alerts other workers that its path is blocked. When the path is cleared, the vehicle automatically resumes travel to its destination. When it reaches a programmed stop location that already has a vehicle parked for unloading, it will either stage behind that vehicle or use an established passing lane to continue to its final destination. When the mission is complete, the vehicle automatically returns to the next available loading location.

In select cases where the operations do not provide a clear path for the DualMode T tow tractor, the vehicle stops and notifies workers that action or attention is required. Since the vehicles feature dual modes of operation - automated and manual - any trained operator can manually move the vehicle and its cargo to its specified course and resume automated operation.

RESULTS

Automated vehicles such as the DualMode T tow tractor, equipped with natural feature navigation systems, can deliver non-conveyable items quickly, efficiently and safely to their destination – without the need for manual operation. Such systems can be easily reconfigured as transport needs evolve, without the complex infrastructure issues associated with the reconfiguration of traditional conveyor systems.

Provides a flexible and lower cost alternative to a traditional conveyor system

- Removes the need for personnel to travel with non-conveyables throughout the facility, enabling reassignment of employees to other value-added responsibilities
- Complies with ANSI safety standards
- Operates according to application-specific programming, which may be modified by users following training and authorisation
- Includes dual-mode capability, allowing tow tractors to be operated in either automated or manual modes
- Provides a scalable, reconfigurable solution that evolves with changing business needs without complex infrastructure requirements

To learn more and contact your local Crown Branch visit crown.com.