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How hybrid AGVs bring together the best manual lift trucks and automation to create next-generation functionality for effective material handling

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About this Presentation

When it comes to automation, it’s often a paradigm shift for those used to manual material handling solutions to make the switch to automated solutions.

Hybrid mobile automation solutions take traditional manual solutions and add an automation pack creating a machine that can operate as an AGV or operated manually if needed.
Key Takeaways (What You’ll Learn)

• Learn why hybrid mobile automation solutions offer a better value than traditional AGV solutions
• Learn the value of using hybrid AGV mobile automation solutions over traditional manual machines in your operation
What is a Hybrid AGV

• A hybrid AGV is a standard electric lift truck and adds:
  • Laser guidance and navigation
  • Advanced laser safety systems
• This creates a machine that can operate as a fully automated AGV or be driven manually
This is NOT a Hybrid AGV

What movie?
This is NOT a Hybrid AGV either

What movie?
This is a Hybrid AGV

• The automation pack allows the machine to automatically drive, navigate and handle goods
  • Picking
  • Putting
  • Transporting
  • Lifting
  • Stacking

Anything a fork truck can do, just that no one is driving
What types of machines can be Hybrids?

- Any electric-based manually operated fork truck can be converted into a hybrid
  - Fork
  - Reach
  - Very Narrow Aisle
  - Tugger
Why use a Hybrid AGV - Safety Benefits

Forklift Safety

855,900 forklifts in the U.S.
11% of forklifts will be involved in an accident

Forklift Accidents
61,800 non-serious accidents per year
34,900 accidents resulting in serious injury
85 fatal accidents per year

Types of Fatal Accidents
- Crushed by vehicle tipping over: 42%
- Crushed between vehicle and a surface: 25%
- Crushed between two vehicles: 11%
- Struck or run over by a forklift: 10%
- Struck by falling material: 8%
- Fall from platform on the forks: 4%

Fatal Forklift Accidents By Industry
- Manufacturing: 42.5%
- Construction: 23.8%
- Wholesale Trades: 12.5%
- Transportation: 11%
- Retail Trade: 9%
- Mining: 1.2%

Why use a Hybrid AGV - Safety Benefits
Why use a Hybrid AGV - Workforce Challenges

Source: 2018 MHI Annual Industry Report by MHI and Deloitte
The Aging Workforce
The Aging Workforce

The Labor Force is Aging

Percent Distribution of the Labor Force by Age Group

Source: bls.gov

1994

- 16-24
- 25-34
- 35-44
- 45-54
- 55+

2024

- 16.5
- 26.2
- 26.9
- 18.6
- 11.9
- 11.3
- 22.5
- 22.0
- 19.4
- 24.8

Projected
What Stays the Same with a Hybrid AGV?

Standard off-the-shelf man-aboard base truck
Uses standard forklift batteries
Same type of service
  • Your own maintenance
  • Resident maintenance
  • Local service support
The Automation Kit

Standard Hybrid AGV Components
- Laser guidance and navigation
- Advanced laser safety systems
- Graphical touchscreen monitor
- Industrial PC
- Wireless communications

Optional Components can include:
- RFID readers, bar code scanners
- 3D camera technology
- Robotic battery exchange system
- Automatic battery charging
- Mechanism side-shift systems
Advantages of a Hybrid over an AGV

• Dual Use
  • Use as an AGV
  • Use manually as needed
• Same mechanical maintenance
• Lower cost per unit than traditional AGV
Key Takeaways (What You’ll Learn)

• Hybrid AGVs are a flexible automation solution that offers a better value than traditional AGV solutions

• Hybrid AGVs are a safer solution than traditional manual machines, and address continuing labor issues in your operation
What a Hybrid AGV Won’t Do
For More Information

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