Cost-Effective and Reliable Automation: Build Your Own AGV

Presented by:
Andrew Kauffman
Meiden America Inc.
1. Common issues with mainstream AGVs

2. Eliminating those issues: build your own AGV

3. Real world examples

4. Q&A
Common Issues with Mainstream AGVs

- **Questionable ROI**
  - Typical AGV cost from supplier: $70K or more for a 1-AGV system
  - Plus maintenance, downtime, ‘learning curve’ costs
  - Typical cost of push-cart labor per year: $35K or more

- **Complexity of technology**
  - Requires more support from supplier
  - Can lead to significant downtime
  - Employee knowledge transfer can be difficult

- **Not what you need**
  - Requires adapting to constraints of ‘off-the-shelf’ model
  - AGV system in general may not be appropriate for application
  - Waste of time, money, and effort
Advantages:

• Cost-effective: pay only for what you need

• Simpler and easy to maintain

• Tailored to your application

• Flexible: can often be easily modified/upgraded
How to Build Your Own AGV

Using an AGV kit such as the Meiden AGV Kit, you can:

1. Retrofit a push cart and transform it into an AGV
2. Purchase an AGV kit and build your own AGV
3. Purchase an AGV Kit turnkey solution
Retrofit an Existing Cart

- Limited possibilities – depends on cart dimensions and AGV motor
- Typically only the motor, controls, guidance mechanism and safety sensor needed
- Extremely cost-effective
Building Your Own AGV

- Possible for customers with moderate-high fabrication and engineering capability
- Build costs are very easy to track and manage
- Maintenance, usage, and future upgrades are easier because it was built in-house
Turnkey Solutions with AGV Kits

- Done by professionals yet still cost-effective
- Customer still has a lot of design input, but also benefits from supplier’s expertise
- Supplier can set up and commission the system
Real World Examples

- Simple aluminum pipe frame body
- Can be used as a ‘unit load’ AGV or a tugger
- Simple controls and software
- Simple maintenance
- Cost-effective, easily maintained and easily acquired batteries
- Added safety features (laser scanner, bumper, signal tower)
Real World Examples

• System of 8 AGVs transporting gear sets through production area

• Automatic roller feature

• Removed 8 human operators

• Increased line efficiency 100%

• Management received award for cost savings
Real World Examples

• 14 AGVs transporting front end modules through a production line

• Human operators can start/stop AGVs remotely from their work stations via wireless switches

• Estimated that labor of 3 human operators was saved
Mainstream AGVs are often pricey with significant ‘hidden’ costs

Building your own AGV with an AGV Kit can offer a simple yet effective, and low-cost solution

You can build your own AGV ‘from scratch’ using AGV motor products and additional components in house with even minimal engineering and fabrication capability

You can partner with an AGV Kit supplier to build a turnkey, customized, cost-effective solution for your application
Q&A and Open Discussion
For more information:

Speaker email: a.kauffman@meidenamerica.com
Website: www.meidenamerica.com

Or visit booth ####

MEIDEN