Cost-Effective and Reliable Automation:
Build Your Own AGV

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Agenda

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

Build Your Own AGV

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

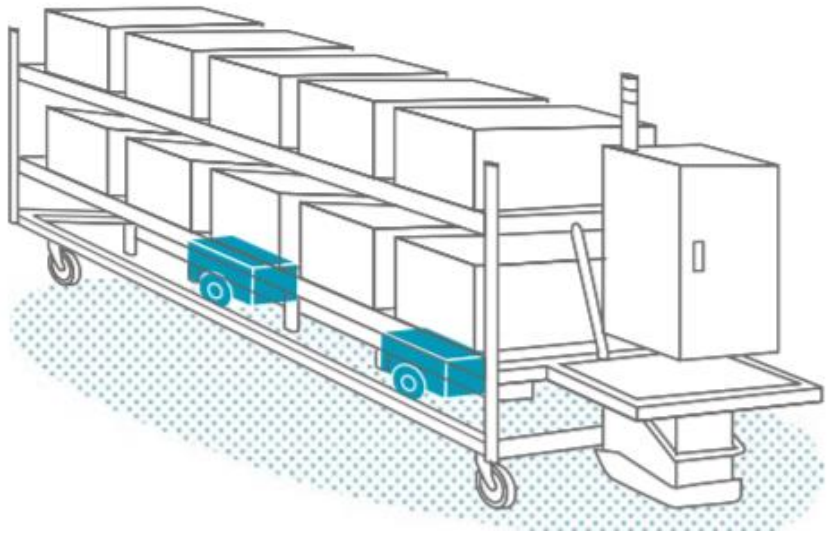
Using an AGV kit such as the Meiden AGV Kit, you can:

1. Retrofit a push cart and transform it into an AGV

2. Purchase an AGV kit and build your own AGV

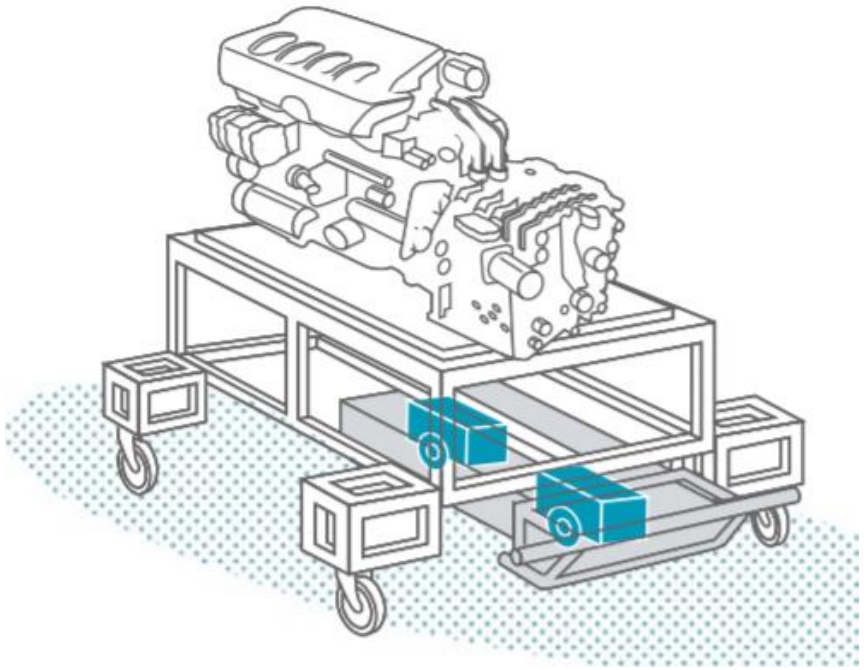
3. Purchase an AGV Kit turnkey solution

Retrofit an Existing Cart



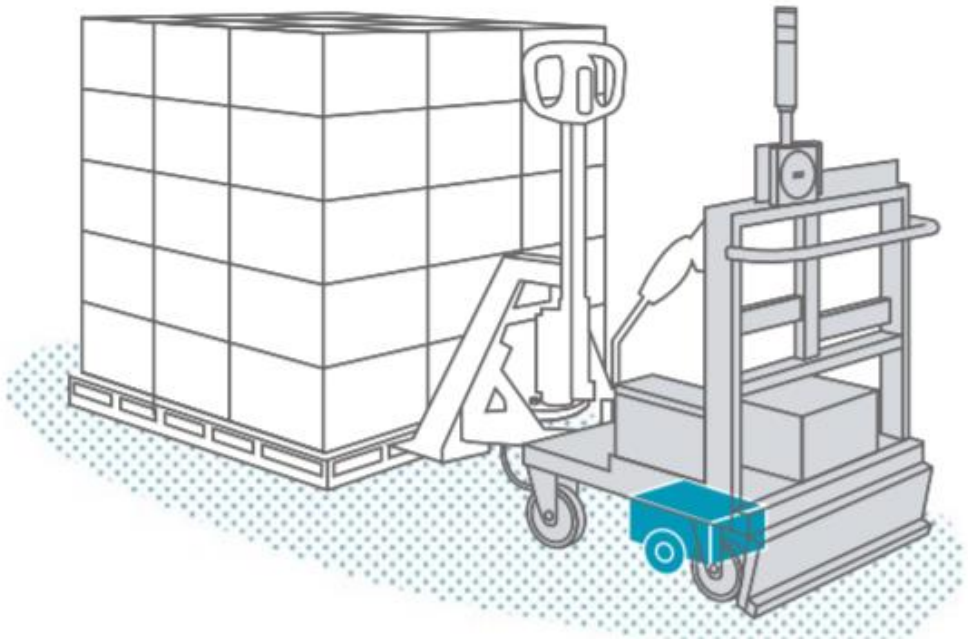
- Limited possibilities – depends on cart dimensions and AGV motor
- Typically only the motor, controls, guidance mechanism and safety sensor needed
- Extremely cost-effective

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

Takeaways

- 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:

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