

Automatic Guided Vehicle Experience

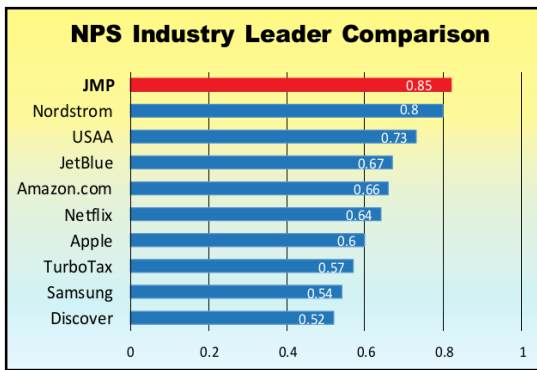


JMP Solutions

About JMP

- Serving national customers locally: 14 business units throughout North America, targeting Industrial Fortune 1000 companies since 1987
- More than 20,000 projects completed to date
- Strategic partnerships with Rockwell Automation, Honeywell, and FANUC
- Top 10 largest Controls System Integrator in North America (SI Giants List from CFE Media)
- **Core Competencies and Applications Where We Excel:**
 - Automated Guided Vehicles
 - Control System Integration
 - Information & MES
 - Networking Infrastructure and Security
 - Process Automation
 - Robotic Systems

Our Differentiators



Source: 2016 Satmetrix Net Promoter® Benchmark Study



First Priority: Customer Satisfaction

- Address customer issues daily, from each employee to the Executive Team
- Net Promoter Score (NPS)









Extraordinary Customer Experience









- Guaranteed Performance
- Exceptional Communication
- Radical Commitment

Execution Excellence – Every time, all the time!

- Project Management
- Change Management
- Risk Management
- Multi-Site Execution

Serving National Customers Locally

Burlington  (905) 631-6660
 Calgary  (403) 475-2886
 Cambridge  (519) 622-2505
 Dallas  (214) 496-0616
 Houston  (832) 647-0024
 Information Division   (513) 795-9082
 Lexington  (519) 239-8913

London  (519) 652-2741
 Montreal  (514) 248-1857
 New Jersey  (873) 808-8550
 Philadelphia  (610) 524-0500
 San Antonio   (210) 930-6060
 Robotics Division  (519) 451-1974
 Toronto  (905) 851-8700

Automatic Guided Vehicle Experience



JMP Solutions

What is an AGV?

- Unmanned Autonomous Guided Vehicle
- Uses some sort of guidance system (tape, lasers, virtual map)
- Generally deliver parts/product

Implementation Examples

- Engine Prep Line
 - 16 AGVs carrying engines and transmissions on a custom dolly
 - Operating as a production line for parts of the route
 - Battery charging at end of the shift
 - Allows for flexibility in the part locations
 - Improved safety
- Bulk Ingredient Delivery
 - 2 OTTO SDVs carrying ingredient sacks
 - Autonomous vehicles, follow a map
 - Improves safety, throughput, and flexibility
 - Decreases inventory and WIP
 - Availability of product tracking and feedback for business systems for order filling, ingredient inventory, and production throughput
- Engine Delivery
 - 40+ AGVs delivering engines and front axles
 - Opportunity charging
 - Allowed for flexibility in migrating to a new line

Things to Consider

- Maximize process safety
- Determine which functions add value requiring human participation
- Part delivery optimization
- Anywhere from \$50k to \$150k per unit including integration

Why Use JMP AGVs?

- Reduce time spent on non-value add functions (Muda)
- Improve throughput
- Lower operating costs
- Flexibility and optimization in routing
- Easily adaptable to changing products/locations
- Safety of employees

