

AGVs Transport Palletized Cement Board

Transbotics- A Scott Company

When a major manufacturer of Building Materials located in Michigan wanted to automate their methodology for moving wallboard in and out of a curing room, they chose [Transbotics](#) for their expertise in AGV system solutions. The client wanted to transport robotically palletized cement boards using an AGV to increase safety and maximize production throughput. The AGV transports wallboard to a curing room where the product is sufficiently dried for approximately 24 hours. The AGVs also evacuate the product from the curing room and stage those loads for packaging at a single conveyor. The process is made complicated because loads are being evacuated simultaneous to loads entering for storage. There is also the complication of having to stack similar loads together and tracking all inventory in real-time for the purpose of order generation.

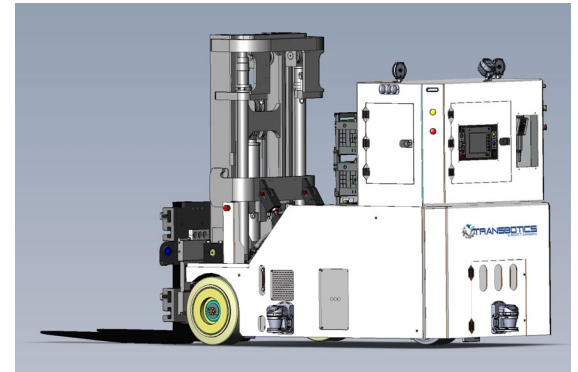


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<https://www.youtube.com/user/Transbotics>



Growth & Impact



**Dramatic
Benefit**

Decreased
labor cost



150%

Throughput

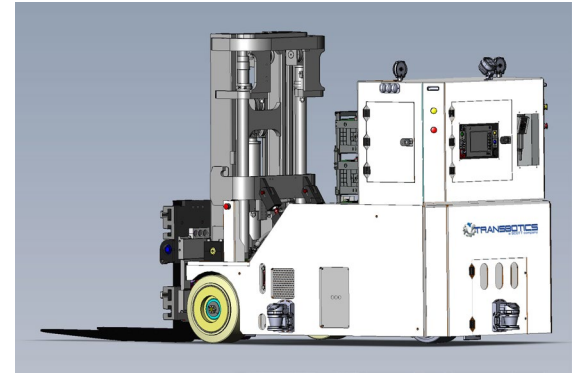


**Increased
ROI**

1,600 loads
over the
course of 41
hours

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“The complete solution significantly decreased labor costs while accommodating increased production from upgraded production lines”



Client Requirements

The AGV System must be capable of:

- Handling all the various product sizes and associated throughput
- Monitoring product inventory stored in deep lane fashion in the curing room; nominally 200 positions
- Handling two stacked pallets with the maximum weight at 6,500 lbs
- Handle and deliver all pallet specifications
- Picking up product from the Robotic Palletizer system deliver the product to the Curing Room
- Evacuate cured product from the Curing Room and deliver the product to the Packaging/Wrapping Conveyor
- Deliver product to the Packaging Conveyor from the Curing Room at 150% throughput of the Robotic Palletizer system
- De-stacking the product at the Packaging/Wrapping Conveyor
- Operating in a dusty environment with temperature extremes to 110 degrees Fahrenheit

The Solution

After generating numerous system models, the proposed system would meet the customer’s required throughput utilizing 3 vehicles. The recommendation was in part calculated under the provision that the AGV is moving two loads, pre-stacked, at a time. Given the building and layout constraints the best vehicle to suit the needs of this client, was a dual [navigation](#) vehicle utilizing both inertial and laser guidance.

The AGV incorporates use of a color touch screen UI, buttons for start, Soft-stop and E-stop functions, battery status meter, travel lights with signal indication for turns, travel and alert alarm and numerous other safety features.

Dramatic Benefit

The complete solution significantly decreased labor costs while accommodating increased production from upgraded production lines. The system is also safer as forklifts no longer operate in congested areas which has also served to reduce product damage. The system safely supports movement of over 1,600 loads over the course of 41 hours in a forklift free environment.

About the Company

Since 1982, [Transbotics](#) has specialized in the design, development, installation, and support of automation solutions with an emphasis on Automated Guided Vehicles (AGV) and Automated Guided Carts (AGC). The company is a complete material handling, automation solutions integrator. Transbotics manufactures and installs, standard and custom AGVs, AGCs, heavy load AGVs, and supports and sells other related products such as conveyors, batteries, chargers, etc. Transbotics is a part of the Scott Group having a wide array of material handling expertise.