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Spring Issue - September, 2011

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RA & Amcor: Triple Award Winners!



Colin Wells, Managing Director, accepts the three awards "Best-of-the-best", "Best Materials Handling Solution" and "Best Technology Application" on behalf of **Robotic Automation P/L** and **Amcor Cartons** (Botany NSW).

This edition of **RA NEWSWIRE** starts very similar to the last - with another 3 awards won. This time it's the "Mercury" awards for RA's End-of-Line project with **Amcor Cartons**, Botany NSW. An integrated solution combining Robotic Palletising, AGV (Automatic Guided Vehicles) for Machine Tending & Delivery, plus fully-automatic Stretch Wrapping of pallet loads (see further below for a full case study).

Our thanks to *Logistics & Materials Handling* magazine for this recognition culminating in the top award of the night, the "Best of the Best" award. In full detail the awards are:

Mercury Awards (*Logistics & Materials Handling* magazine) - National awards celebrating excellence & innovation in Supply Chain & Logistics.
www.logisticsmagazine.com.au/awards.aspx

Category: Best Technology Application
Result: Winner / 1st Place - RA & Amcor Cartons

Category: Best Materials Handling Solution
Result: Winner / 1st Place - RA & Amcor Cartons

Category: Best of the Best (from all category winners)
Result: Winner / 1st Place - RA & Amcor Cartons

Our thanks also to the team at **Amcor Cartons**, Botany, our client-partners who helped make this project the recognised success that it is!

Finally, to be fair to our many other long-standing clients & projects, we should note in apology that **RA** has only recently focussed effort in awards participation (time better spent on the projects themselves!) and we know that our clients own many more award-worthy projects that can be found amongst the **more than 3,000** solutions that **RA** has installed and supported nationally.

Many of the best projects go unsung!

End-of-Line Automation is First-in-Line for Awards...



CLIENT: **Amcor Cartons Pty Ltd, Botany NSW**

Above: RA's unique dual-fork RAGV design halves the number of trips that a vehicle needs to take when tending each palletising cell. Here,

CHALLENGE: The end of the production line has traditionally been a challenge for manufacturers who find many equipment options to aid processes within their production line but find few equipment suppliers that take a "holistic solution" approach to further include the processes before and after their core production equipment. The result sees a mish-mash of high-end technology interfaced with manual handling. At Amcor, high-speed printing, folding, gluing and packing machines were suddenly "bottle-necked" by manual staff-handling of the boxed product.

These end-of-line processes began to accumulate a number of concerns...

- The manual palletising and pallet wrapping tasks are highly repetitive and can be physically very demanding, with strain & injuries in occurrence and associated costs in management, labour, claims and lost production time.
 - Manually driven forklifts operating around manual-loading staff also presents very significant OH&S hazards/costs
(note June 2011 article "Forklift Accident Costs \$193,000 + Legal Costs" refer: <http://tiny.cc/hdf8v>)
- Some products are tightly packed in lidless boxes and required to be palletised this way - spills can occur easily with lengthy clean-up delays (the mess described as "like throwing loose decks of cards on the floor")
- With the inherent variability of manual operations, and low personal commitment in menial tasks, staff performance in loading and wrapping varies and presentation of the product to the customer can suffer.
- Significant numbers of manual staff were needed to keep up with the six high-speed lines. During lengthy set-up for product changes on the lines, there is little for many of the staff to do.



SOLUTION: **Amcor** proactively sought a solution to these concerns which could also fill the gaps between their existing islands of high-speed production. They partnered with **RA** to develop this *End-of-Line* solution combining Robotic Palletising, RAGV (Automatic Guided Vehicles) for Machine Tending & Delivery, plus fully-automatic Stretch Wrapping systems. **RA's** design, integration, testing and turnkey delivery included extra-value innovations such as...

- **RA's** patented, lightweight/high-torque servo paddle-gripper on each palletising robot which minimises the contribution to payload - allowing smaller robots to be used in smaller cells for an overall optimised footprint - saving valuable factory space! The gripper also allows the robot to handle lidless boxes of product - an Amcor clients' requirement - gripping from the box sides. The clever gripper design even includes retractable pneumatic arms for top-lifting & positioning of interlayer pallet slip-sheets & layer-caps.
- **RA's "RAGV"** solution (*Robotic Automation's Guided Vehicles*) replaced the need for great lengths of pallet conveyors, floor-space, plus additional pallet-dispensers needed throughout the solution. **Amcor** retains staff & servicing access around all equipment as safety features allow shared routes with pedestrians, and laser-navigation means zero floor modification and greater flexibility to rearrange equipment layouts in the future. An additional advantage is the inherent easily-scalability of the solution allowing **Amcor** to efficiently invest in the full solution in workable stages, adding extra vehicles to the fleet as the solution is proven.
- In a unique development of the **RA** team to maximise productivity and reduce the number & cost in vehicles, design of the **RAGVs** include a twin-set of independently articulated fork-tines which allows a vehicle to simultaneously make a delivery AND a pick-up, doubling its productivity! (halving the number of trips it needs to make (refer to photo above).

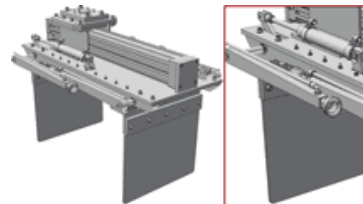
the vehicle places an empty pallet while picking up a full one.



Above: The RAGV delivers a pallet-load to the ROBOPAC Helix HS30 wrapping station, where a top-sheet & full stretch-wrapping is applied...



...At the other end, the RAGV can perform pick-up & delivery to warehouse racking or despatch departments. Note the neat presentation of wrapped pallet loads.



Above: **RA's** patented lightweight/high-torque servo paddle gripper for handling loads including product in lidless boxes. The detail view at right shows the pneumatic mechanism ready to flip down for lifting sheets and layer caps.

MAIN EQUIPMENT:

- 6x **Motoman MPL80 Robots** ("Master Palletising" robots with 80kg payload) fitted with **RA's** patented light-weight servo-gripper.
- 6x safety cells with optimised footprint, bi-level pallet stands, light curtains and other safety features.
- RAGV (Automatic Guided Vehicle) system with laser-navigation, wall-mounted reflectors & master computer.
- Robopac Helix HS30 fully automatic pallet stretch wrapping machine with top-sheeting dispenser/applicator.

BENEFITS:

- Increased productivity by 235%!
- Increase of up to 350% more efficient use of stretch film consumables.
- Increased staff safety.
- Increased product consistency & presentation.
- Optimised floor-space & layout flexibility.

- Consumables. The team utilised a powered, pre-stretch film carriage on the **ROBOPAC Helix HS30** wrapping machine. This technology delivers up to 350% film-stretch and taken with the machine's accurate & consistent wrapping motion, the system improves presentation while halving the amount of film previously used to wrap each pallet manually - delivering an incredible saving on consumable costs!

- *Eliminated manual forklift damage to finished product & site infrastructure.*
- *Redeployment of manual handling staff.*
- *Reduction in staff injuries & associated costs.*
- *Reduced production time lost.*
- *Reduced waste.*

Motoman Robots go to the Movies!

The latest of **RA's** application videos on www.YouTube.com now include some of the "star-turns" by **Motoman** robots in Hollywood movies.

Always humble and never temperamental, robots are the perfect actors (and with a better performance-range than some in Hollywood!).

(Direct link www.youtube.com/user/RoboticAutomationPL)



Are you missing out?

Have you had an audit of your site's automation potential? Our team is always happy to advise you - call us on

1300 552 333 to enquire or simply [reply](#) to this email.

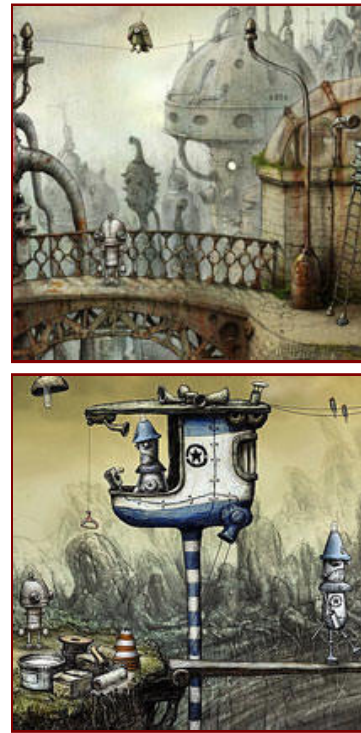
Robot Game Challenge: "Machinarium"



Can you rebuild our robot-hero and help reunite him with his robo-girlfriend in this beautiful puzzle-game? If you can, we have a free copy of the complete game to give away! ...Just be the first of our readers who completes the free introductory demo of the game online at...

<http://machinarium.net>

...and then reply to this email and describe your last few puzzle-solving steps to success! First correct reply wins a free download of the full game. Good luck!



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