Addverb Technologies Pvt Ltd.

Addverb Technologies provides Robotic Integration, Warehouse Automation & Industrial IoT solutions by leveraging Industry 4.0 technologies. Our extensive experience in the field of intralogistics automation enables us to design the best solution based on the requirement of our customers. We provide customizable, modular, robust and innovative solutions to cater to the needs of an increasingly digital supply chain. We deliver the modern warehouses of the future.

Today

Industry 4.0

Addverb Tech operates across 3 segments- Robotics Integration, Warehouse Automation & Industrial IoT. Under robotics integration, we provide an end-to-end solutions for secondary & tertiary packaging. We have expertise in selecting the robots according to the customer requirement, design of robotic supporting systems like grippers, conveyors, vision systems and design of layout and matrix.

Our other solutions suite includes storage optimization solutions like pallet shuttle, AS/RS; material movement solutions like AGVs, conveyors; advanced picking technologies like pick to light, pick by voice; warehouse softwares like WCS, WMS & various other Industrial IoT solutions that enable asset tracking, predictive maintenance and higher efficiencies.

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Cofresh is a UK based food processing company. They have a wide variety of Indian and other snack products. Founded in 1960, today Co-fresh snacks are famous for providing innovative snacks with authentic flavors. Being the best, they have the responsibly to meet the needs of customers and always keep their products in stock, on the shelf. Their various product lines include snacks, candy bars, nuts, various, and mixed savouries.

The Problem/Existing Situation

Client is one of the most favorite Indian snack brands in UK. They have a wide variety of Indian and other snack products. Founded in early 60s, today they are famous for providing innovative snacks with authentic flavors. Being the best, they have the responsibly to meet the needs of customers and always keep their products in stock, on the shelf. Once the snacks are baked, they will be tested through a metal detector then they will be fed into the feeder machine, which will do the primary packing according to the weight of the packets. After this the secondary packaging of carton packets will be done manually wherein people open the carton & seal from the bottom face, put snack packets in the carton and then seal the top face and put it on a conveyor which takes it further. There are total 14 lines for 14 different categories of products and each line was operating manually. This was creating some issue as the output was not in line with the growing demand requirement. They approached Addverb Technologies Pvt. Ltd in India to come up with a solution to automate the best seller product packing line to understand the functionality as well as benefits of robotic packaging.
To overcome the above challenges Addverb proposed a robotic packaging solution with total 3 robots that solves the problem right from case erection to top sealing. The robot which do the case erection has to do 2 things

1. To get hold of the major side of the carton - An end effector will be attached on to the robot that was designed to act as a robotic case erector. The end effector consisted of suction pads, to hold the carton in place.

2. The second task is to fold the minor side of the carton to 90 degrees – A pneumatic rotary actuator with a thin aluminum plate mounted on it will be used to exert force on the minor side of the carton.

After these two tasks, closing of the minor & major flaps need to be done, which will be done using a stainless L plate and bended rods respectively. After this, the carton will be passed on to the bottom sealer.

The bottom sealed carton is then passed on to a conveyor that transports it to the next robotic system where the two ABB robots pick 6 packets one by one with help of a custom end effector, that is also designed in house. One robot picks, 6 packets and then goes and places it in the made carton. The 2 robots work in perfect coordination with each other.

Overall the solution consists of:

- 3 Robots
  1 for case erection & 2 ABB Robots for picking & placing packets
- Conveyor System
  All the electrical controls required to run the system
- Electrical Controls
  Conveyor system (belt + roller)
- Sensor System
  One to identify the packets & the other to identify the cartons

**RESULTS**

- The project facilitated quick cartonning at 10 cycle/minute.
- The packets are received on the incline conveyor at a speed of 60 packets per minute. Therefore, time taken to get 6 packets in one end effector is 6 seconds. The robot can place these in the carton and come back wait for new packets in 4.3 seconds at 55% of the maximum robot speed.

- So, for every 6 seconds a box is filled and packed. This is the cycle time achievable by the robotic solution, at any point in the day, constantly.
- They can keep the system running for 24 hours in case of peak demand season.
WHY ADDVERB?

End-to-End solution orient approach - We study your entire factory/warehouse layout before proposing a solution for best operational efficiency

We provide the best suitable robot for the system & all the supporting systems like conveyors, grippers and vision system

Dedicated team of quality & experienced engineers & experts for client through-out & after-implementation

Our robotic packaging system is 100% safe for operation

Our design withstands wide temperature variations and contaminations

Highest Quality Standards - Procurement of finest quality of raw materials & modern machines

WMS

Conveyors

AGVs

AddLight

Pallet Shuttle

Sorters

Turn Tables

AS/RS