



Industrial Visit Report

BALAJI Wafers Pvt. Ltd., Dungri, Valsad



Mechanical Engineering Department (P.G. Section) of S.N.P.I.T. & R.C., Umrakh arranged an industrial visit to Balaji Wafers Pvt. Ltd., Dungri, Valsad on 21st March 2018 with 15 students of 1st year and 06 students of 2nd year M.E. Production Engineering. The purpose of the visit was to enhance industrial exposure of the students, get practical knowledge of manufacturing procedure, automation, packaging, advanced machineries, automatic storage and retrieval system (ASRS). Our five faculty coordinators Mr. Milan Patel, Mr. Misal Gandhi, Mr. Hiten Mistry, Mr. Hitesh Tailor and Mr. Chirag Chaudhari took part in prestigious industrial visit.

AIM OF INDUSTRIAL VISIT

Industrial visit is considered as one of the tactical methods of teaching. The main reason behind this are: to let student know things practically through interaction, working methods and employment practices. Moreover, it gives exposure from academic point of view. It also provided students a good opportunity to gain full awareness about industrial practices.



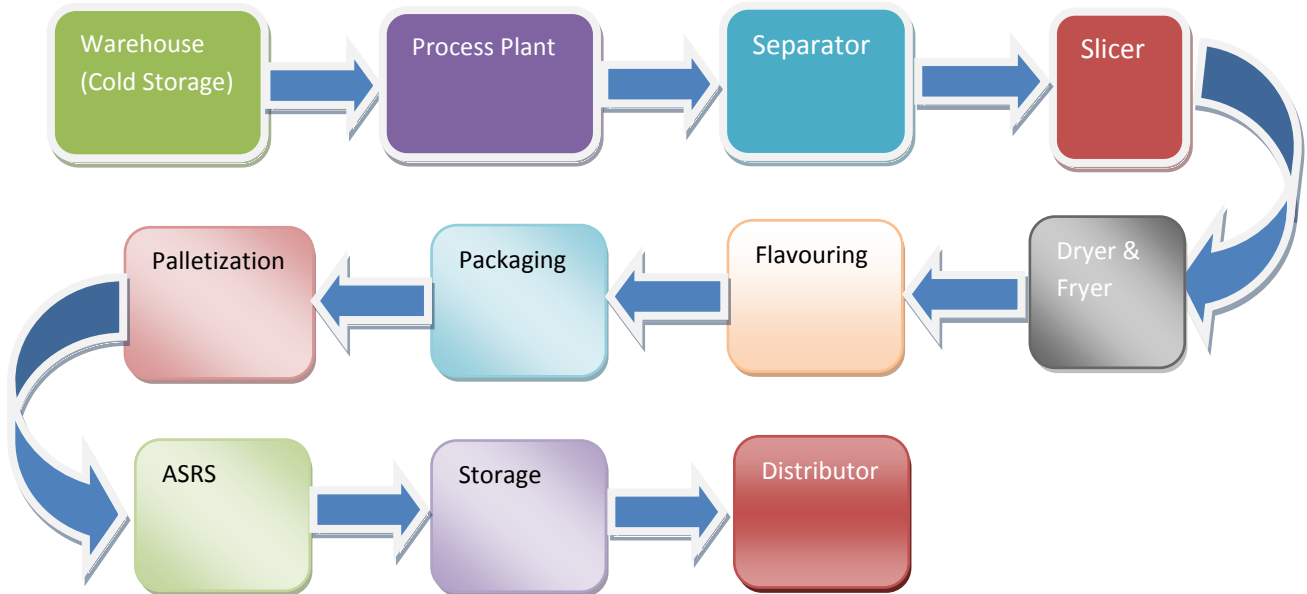
ABOUT INDUSTRY

Balaji Wafers began as a micro-retail enterprise in 1974, managed by the Virani brothers at Astron Cinema, Rajkot. By 1982, spurred by the initiative of Virani brothers, this grew to a home-based manufacturing venture. A decade later, the brothers set up an international standard automatic plant in Gujarat, with steps to increase capacity and quality. In 2000, Balaji Wafers installed its first fully automatic plant. By 2014, Balaji Wafers captured a 70% market share in snacks market. Today, the company employs more than 1800 personnel in their Rajkot and Valsad manufacturing facilities. Balaji has the capacity to manufacture 100,000 kg of potato wafers, along with 500,000 kg of savouries per day.

VISIT INSIGHTS



Flow of the Visit



Industrial Visit for the subject “Product Automation and CNC Technology” and “Flexible Manufacturing System” were scheduled at Balaji Wafers Pvt. Ltd., Valsad. As scheduled, the visiting team reached Balaji Wafers Pvt. Ltd. at 10:45 A.M. and warm welcome was received from company representatives. They gave us the brief idea about their work culture, vision & mission and then technology description has been given by HR member and the team was imparted to us.

Below is the Technology learning from the industrial visit at Balaji Wafers Pvt. Ltd. which will impart roots of knowledge in our students of Masters of Engineering:

Visit started by introducing some of the basic processes of automation. They briefed us about the various manufacturing products like *wafers*, *chevdo*, etc. Around 11:00 A.M. they divided us into two groups and both groups was leading by one of the members of their company. Firstly they informed us about the safety instruction & guidelines to be carried out in the process plant. As we know Balaji Wafers Pvt. Ltd.’s main product is potato chips. Our instructor guided us to the warehouse. It was a huge warehouse completely filled with potatoes. We notice there was one separator. Our instructor guides us that separator used to separate potatoes in big and small size depending upon the requirement. Small size potatoes would be returned to the distributor for the market. Only the required size potatoes would be further



moved for the process. We also got to know that around 150-200 tons of potatoes are separated daily.

Then we moved to the process plant. We noticed that there were two parallel automated machines available. Each of them works on the same process to produce potato chips. Our guide led us to the one of the machines. She described us in full process how automatically it is operated. She described us that firstly potatoes were being peeled in peeler. It's again being inspected through the automated separator at which an automated sensor separate defected and unpeeled potatoes. Remaining potatoes moved to the slicer. In the slicer potatoes being sliced as per requirement. For proper frying, it's necessary to remove starch so from the slicer and frying they do remove unnecessary starch from chips. Then chips moved to fryer around 10 minutes potatoes slices converted into chips. Then again it passes through a quality check. This process was also automated. In this, a sensor sense defected improper fried or irregular shaped chips from the process line.

Then in next processing room, there was another machine which adds flavors to the chips. Then it moves to the packaging line. In the packaging line fully automated machines weight and fill the package. The machine also fills nitrogen gas to prevent a product from the contamination. After the completion of process there was only one part where humans were involved in dividing and filling package into boxes. There were also one inspector continues to observe that machines were working properly. There was a continuous observation of package and quality check. Then the final boxes were being palletized for distribution. For the distribution also the use ASRS (automatic storage and retrieving system).

As per their given information they process around "wafers" 2400 kg/hr and "chevdo" 2200 kg/hr. around 1:00 P.M. we almost completed our visit with satisfactory knowledge.

The students got the opportunity to learn about manufacturing procedure, automation, Packaging, advanced machineries, Automatic storage and retrieval system (ASRS). We S.N.P.I.T. & R.C. Mechanical Engineering department team are really thankful to the Balaji Wafers Pvt. Ltd. and Ms. Nishita Panchal (HR Executive) & their team.

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