



VIZZITEC SOLUTIONS PVT. LTD.
CASE STUDIES

BRAKE DRUM INSPECTION

The customer is a big manufacturing industrial group from India and has strong presence in the market. The customer also exports the brake drums worldwide and has well established systems in place.

The main challenge was to prove the reliability of the system for more than 12 types of brake drums. The implementation problems were sorted easily but the vibration of the handling system caused few problems. The handling system was developed by a third party vendor and supplied to the customer. Vizzitec implemented the system at the customer place.

The system was proved and the customer came out with repeated orders to cover their various lines.



GLASS INSPECTION

The customer is world's largest producer of glass and has manufacturing plants in India. The vision system detects logo presence in the glass and its position. The glass moves on a conveyor at a speed of 40mts / minute. The conveyor has a width of around 2.5 mts and the glasses of various types having various dimensions are manufactured.

The first challenge was to capture a moving object with blur free images. The second challenge was to have a uniform lighting for the entire width of the conveyor. The third challenge was to detect the glasses that come into system for checking. A high frame rate camera with provision for positioning the camera on the conveyor according to the glass and logo position was provided. A customized DC lighting to cover the entire area was developed. The cameras are made to capture the images continuously and the edge detection of the glass is signaled as the start of image processing. The entire system including mechanical fixtures was developed by Vizzitec.

The project took more implementation time because of the various sizes of the glasses and availability of space. The project got successfully implemented and the customer is happy. The customer preferred Vizzitec for various other projects.

BEARING INSPECTION

The customer is one of the world's largest producers of the ball bearing and has manufacturing plants across the globe. The vision system is used to detect the seal presence in the bearings and the wrong assemblies were also detected.

There were few challenges in the development like choosing the lens for various types of bearings and tuning the lighting part. The entire system including handling system was developed by Vizzitec and the calibration software was also developed. The auto calibration software stops the line after the set number of bearing counts. The calibration cycle includes set number of master bearing checking and the system stops if the calibration is not paused.

The removal of defective bearing is watched by the same camera which is used for the inspection. The customer checked repeatability and reliability for the 250K components and found 100% results. The customer is happy and the relationship is continuing to have more requirements fulfilled through Vizzitec.

BEARING INSPECTION

The customer is an Indian giant in steel and has several manufacturing plants across India. The bearing inspection includes seal presence, logo presence and visual defects on top surface of the bearing.

The entire solution was designed and developed by Vizzitec including the handling system. The main challenges were the environment challenges existing at the manufacturing facility. The bearing comes along with lot of oil and the oil vapors often forms on the lens surface. The lens along with camera is provided protective cover and the customer is advised to clean the transparent cover during fixed time intervals.

The handling system is designed such that the defective bearings are automatically collected in the defective bin and the good bearings are passed to next operation. The relationship is continuing and the customer has ordered for more solutions from Vizzitec.



COMMON RAIL ASSEMBLY INSPECTION

The customer is world's largest producer of automobile components and has tied up with an Indian major for manufacturing various components in India. The inspection purpose is to identify the washer presence in a sub-assembly.

The project is executed without any major challenges and Vizzitec provided only the vision system components and software along with the implementation. The customer uses other vision systems and is happy with the faster implementation and easy configuration of the system according to the changes at the implementation site.

More requirements from the customer shall be fulfilled by Vizzitec shortly.



MIRROR INSPECTION

The customer is world's largest producer of mirror and has manufacturing facilities in India. The solution is to develop a vision system for identifying the defects in mirror running on a conveyor at a speed of 40 mts /minute.

There are totally eight types of defects in the mirror and each one has its own characteristics. The entire mirror area of 2.5 mts width is covered for processing using two cameras working in tandem. The processing is dynamically executed while the mirror is in motion. The lighting is again a major problem in the project. A customized lighting with very high frequency is used for the purpose. The project consumed more implementation time since there were changes in the requirement leading use of two cameras instead of one.

The customer reports of more requirements and the requirements shall be fulfilled shortly.



