

Major Aircraft Manufacturing Facility

Taking a swipe at data

Overview

It is standard practice for companies to analyze their manufacturing processes on a continual basis to aid in maximizing their overall operational efficiency. At this particular aircraft manufacturing facility, data was being catalogued at different workstations via magnetic stripe readers. As the aircraft part came into the employees' assembly area they would swipe their ID card into the reader. The employee number would then be collected with a time stamp so they could associate the part with the employee doing the work. From this data they can determine if there is inefficiency in the way they are assembling the parts or determine areas of the process where defects were occurring on a regular basis. The resulting data was put into a Pareto chart for analysis by the operations team so they could improve the process. This enables the factory to implement programs to improve training, provide better assembly techniques and even re-evaluate their suppliers if parts were the problem.

Problem

While inputting the data into the Pareto chart, the team kept noticing that there were employee numbers that were being thrown out as "bad" data. The cause of the "bad" data was that their badge was not being read correctly, resulting in a 15% error rate. Having such a large error rate made it difficult to run the quality program the company had adopted effectively. They needed a way to drive the error rate down to be able to deliver reliable, quality parts to the aircraft industry and stay competitive. This started the engineers brainstorming on alternative ways to gather the employee data which eventually lead them to RF IDEas. They invited RF IDEas to come out and complete an on site survey. Within a week they had a solution to their problem.

Solution

With over 13 years of industry experience RF IDEas was able to bring a cost effective and comprehensive solution to the manufacturing data problem. The plan entailed the replacement of all the magnetic swipe technology reader with a newer RF IDEas pcProx® Enroll proximity card reader system by using the existing employee proximity badges. The pcProx Enroll system from RF IDEas has both a visual three color LED and an audible beep to alert you that the card was read and the data collected so the employee would be able to tell if they had logged in and out successfully making the system error free.



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The team decided to begin the installation of over 1000 new readers over the Christmas holidays. The insertion team found that the equipment installation went extremely fast. One of the reasons for this is that all readers and writers from RF IDEas are seen by the computer as just another HID (human interface device). That means that there are no drivers to install. The other major advantage of RF IDEas' product is there is no training involved, the employees are using the same badge they use to enter the building or parking lot except now they are using it on the production floor. The team was amazed that they were able to implement the new solution from RF IDEas within days and were up and running by the time the employees returned from the company holiday.

Results

After 3 weeks of gathering data from the factory floor with the new equipment, the quality team went back to crunching the data and creating their charts. What they saw stunned them. The charts were totally different and the new data was actually telling them that they had been working on the wrong issues. The old top three problems they were working on before didn't show up in the top three any longer. Instead the top three issues showing up with the new data were from the noise on the old charts further demonstrating the value of the new readers to the process. With all the pieces of the puzzle now put together the team could go back to work on improving their processes with confidence the data they were gathering was now with zero percent error.

Benefit

With the lack of downtime to implement the new system, the low cost of the solution and the ability to recover lost revenue by correcting the three errors in their process, the company was able to pay for the entire solution within 3 months of the initial purchase. In an industry where there is usually no tangible payback for your investment, the company was able to realize the cost benefit by just fixing the top three issues they never saw with the older, faultier equipment.

RF IDEas Inc.
4238 B Arlington Heights Road
#244
Arlington Heights, IL 60004
www.RFIDEas.com

Toll-free 866-439-4884
Voice 847-870-1723

RF IDEAS