



## Ensuring Safety through Standard Quality at World Leading Automotive Brake Pads Manufacturer

### Quality Variations can Lead to Safety Issues

With the objective of penetrating the Asian market, a world leading automotive parts manufacturer with several plants in Europe and North America acquired a new manufacturing plant in China.

Soon after production commenced, **quality variations** were identified in the brake pads manufactured in that region, raising **safety concerns** and causing **returned orders, re-work, increased cost, and wasted time**.

One of the major causes of this problem was that product **recipes were stored locally** in the control system of each machine, allowing modifications to be made without following the master recipe.

In order to solve this issue, the automotive parts manufacturer turned to **Real Time Systems (RTS)** to develop a solution to help them **ensure a consistent level of quality** for their finished product, **regardless of which global region** the parts are manufactured.

### RTS High Speed Data Collection System

The software solution provided by RTS, **monitors all operational parameters** of the assembly machines and data logs readings such as temperature, pressure and speed, recording them **every 100ms**. This detailed data is used to trace and determine the cause of quality variations in the final product.



This solution can be used to root out the cause of quality variations over time for a **single machine or between machines making similar parts in separate continents**, resulting in a uniform level quality for the finished goods.

To achieve **consistent worldwide quality**, the solution needed to be adaptable and address different manufacturing environments in multiple global regions. This included a greater use of **Radio Frequency Identification Tags to track the movement of production materials** in low labour cost manufacturing regions, where hand balancing of production materials is much more prevalent.

With this solution, material movement within the plant can be tracked in **real-time** and be proactively used to greatly **reduce** the effect of **human error** on the quality of finished product. Data logging the movement of these materials within the production environment provides the historical information needed to identify and correct weak spots within the material handling chain.

## RTS Master Recipe Management Solution

In addition to the **high speed data collection** and analytics, the software was also designed to be the **master recipe data repository** for the production equipment.

The **centralization** of all the recipes into a single location allowed each production line to upload and **compare each recipe to the master list prior to setting the machine parameters.**

This has ensured that the products are manufactured and processed to the **same recipe formula and specifications across the entire manufacturing process**, while reducing the additional oversight and quality control tracking mechanisms that were previously in place.

The implementation also allows the manufacturer to easily **share production recipes with other facilities** within the business unit to ensure conformity to production standards.

## Advantages for the Automotive Parts Manufacturer

The benefits derived from this Quality Data Collection & Recipe Management system include:

- **Ensured product safety** for end users, avoiding possible loss of business and brand reputation damage.
- **Improved overall productivity, efficiency and quality** with timely hands-off data capture and analysis of both machine and process performance data.
- **Improved data accuracy and integrity** as redundant data entry and recipe interfaces are eliminated.
- **Elimination of unnecessary downtime** as production quality issues are identified before they become a problem.
- **Reduced production monitoring expenses** as recipes are managed and checked automatically against the master recipe database.



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