

Case Study

Measurement errors caused short length deliveries of fabric rolls

Project background

An automotive interior supplier was suffering as a result of lengths of fabric received from its suppliers regularly being shorter than specified.

The cost to the company of the short rolls was in excess of €420,000 for the last 4 months prior to commencement of a Six Sigma project.



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Problem

The Black Belt led the team to discover that there was no adequate measurement system in place to determine the lengths of rolls supplied to the company.

Measurement System Analysis showed very poor Gauge R & R results at each of four suppliers. The supplier with the largest delivery shortfall removed sample lengths of fabric for inspection, but the length on the roll ticket was not recalculated. The supplier's allowance for stretch and faults was inadequate. Incorrect tickets had been placed on rolls.

Four production lines were using one ticket machine. Finally allowances for stretch from older fabrics were used on new fabrics, although the newer fabrics had different properties.

Solutions

A robust measurement system was installed to check incoming roll lengths. The supplier's measurement system was calibrated and a new procedure was implemented.

A new procedure was introduced to recalculate and print new tickets after sample removal. Revised allowances were calculated to allow for stretch and faults based on experimental data. An additional ticket machine was installed, one between 2 lines.

Finally a procedure was implemented to ensure new fabric allowances are calculated rather than use existing data.

Business benefits

Invoices were sent to 4 suppliers totalling €450,000 to claim back for short deliveries from the previous 4 months. All invoices were paid in full as robust data proved short shipment. New deliveries are all now to the correct length. If this project had not been carried out costs would have exceeded €1.4m p.a.

Following internal publication of the results of the project a similar replication exercise was carried out across all trim plants in Europe.