

# Case Study

## Reduce Film Edge Trimming Scrap

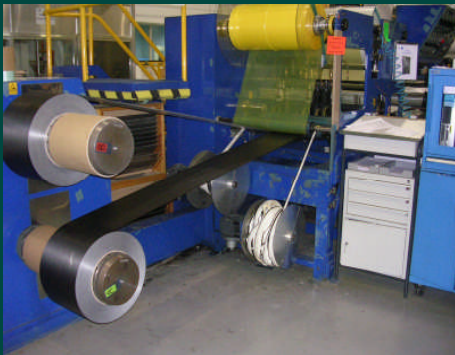


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### Project background

A Spanish division of a leading global supplier of advanced materials manufactured composites for a major European Aircraft manufacturer, operating its machinery 24 hours a day 7 days per week at low margins.

Scrap levels were considered to be excessive.



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### Problem

Management sought to decrease product cost and reduce toxic waste in a high volume environment in order to increase income with the same resources and materials. A Six Sigma project team was set up.

Using Pareto analysis the team noted that 24% of fibre and film scrap emanated from one type of material on a particular impregnation line.

They reviewed the prepreg production process and collected data on temperature, gap, speed, film width by shift and operator so that hypothesis tests could be performed.

The team discovered that there was no significant shift to shift variation, but that the film width measurement system could not be relied on.

Other hypothesis tests showed that film width edge trimming showed the largest variation and was the biggest contributor to fibre scrap. Other scrap contributors were short film, short bobbins and roll to roll set up differences.

### Solutions

The team also noted that the film was moving during production, causing resin leakage where the film was wider than the prepreg width resulting in toxic waste disposal.

They introduced a new support width control system to stop resin leaking from the edge of film. Film and fibre width were aligned.

The screw system was changed to allow correct fixing on metallic rolls, improving the measurement system.

The process was centred and showed improved process capability.

The number of bobbins needed per creel was reduced.

Standard visual operating procedures were introduced to maintain the lower edge variation that had been achieved.

### Business benefits

Resin and Fibre excess usage was reduced saving \$75k per year. The solutions were shared with other divisions to allow project replication in other plants in the group with similar products and technology.