



Supply chain audit, solution design and implementation for Shatterprufe.

Industry

Automotive glass supplier to local manufacturers (OE), replacement glass market (ARG) and export customers.

Background

Shatterprufe is a major supplier of laminated and toughened glass to the OE, ARG and export markets. The manufacturing plants are based in Garankuwa and Port Elizabeth. The plant in Port Elizabeth consists of two production sites, with Neave manufacturing laminated glass and Struandale manufacturing toughened glass. The majority of customers in the OE market are located in Port Elizabeth and Uitenhage. The after-sales market (ARG) operates out of a centralised warehouse based in Bedfordview. The export division is located in Port Elizabeth, with Imperial Logistics providing the third party warehousing service to Shatterprufe.



Shatterprufe, as a business, recognised the importance of growing the export market and improving the overall profitability of the division. The required growth is reflected in charts 6 and 7, however, due to increased competition in their export markets, the client was finding that they were at a significant disadvantage in regard to lead times from order being placed to final delivery.

Problem

The major challenge to improve the overall profitability of the export division within Shatterprufe. The OE customers received first priority, ARG second and the export division, which required the highest growth in turnover, came last on the list of priorities.

Coupled with the problem of priority in supply from the manufacturing plants, the export division was experiencing the following logistics problems:

- Shatterprufe's lead time for delivery to the export markets was significantly longer than their competitors' (mainly Chinese) because of the distance and the resultant lengthier sea voyage involved
- Crate utilisation was low at 76%
- Numerous different crate sizes were utilised
- There was no correlation between actual crates used and the product master that was used to determine product costings
- Container utilisation was low at 68%
- The lead-time in the warehouse was achieving an efficiency level of 85%, which had a direct impact on cash flow, and stock levels
- The export warehouse was overstaffed and not performance driven.

The organisational structure in the business posed further problems:

- A 'Silo' mentality existed in the business
- Export planners, who were not adding significant value, reported through to the logistics department
- Lead times were not synchronised with the manufacturing plant, which resulted in poor customer satisfaction and revenue targets not being achieved
- Stock levels were imbalanced and stock days was at a high of 136 days
- Lines of communication were extremely complex resulting in unnecessary delays and inaccurate information being transferred in the organisation
- The logistics department was responsible for the export warehouse and the export division relied upon them for:
 - Forecasting
 - Stock throughput
 - Stock levels
 - Efficiencies
- The manufacturing planners were committed to the logistics department rather than to the export division
- Export orders lost their identity within the manufacturing units
- There was duplication of work between departments.

Approach

Supply Chain Solutions (SCS), a part of Barloworld Logistics, assessed the various areas requiring focussed attention and compiled a detailed project plan that was agreed to by the Shatterprufe executive committee.

The initial approach was to obtain a clear understanding of the complexities of the business and to understand, establish and compile the following information:

- Existing process and communication flows
- Existing organisational structure

- The virtual warehouse planning system
- Supplier limitations
- In-depth analysis and review of the 3rd party logistics contract
- The complex variations of products and their impact on crate and container utilisation.

Once there was a clear understanding of the business, there was a realisation that the benefits of changing such an organisation would not be obtained during the implementation stage. The improvements to Shatterprufe would only be experienced during the year after completion of the project.

Solution

Five main areas were identified as major contributors to improving the profit in the export division. The project focused primarily on the following:

- Business structure
 - Exports were changed from a division to a business unit
 - A business manager was appointed to assume total responsibility for exports
 - Roles within the business unit were changed to be more focussed and effective
 - The export business unit now had more control over their own destiny in order to compete effectively in a fast changing international arena, with direct involvement in:
 - Forecasting
 - The export warehouse
 - Stock levels
 - Customer service levels and
 - Overall profit responsibility
 - Focus was now on the core business with increased management focus
 - Communication lines were now direct.
- Logistics
 - Responsibility for the export warehouse was transferred from the logistics division to exports
 - Focus in the logistics department are now aimed at key projects for the group:
 - Crate logistics
 - Packing methodology
 - Returnable containers
 - Re-usable crates
 - Freight costs
 - Industrial engineering projects and
 - The virtual warehouse planning system.
- Export warehouse
 - The export warehouse now reported directly to the export business unit
 - The contract for the third party logistics contractor was reviewed and amended to be more performance driven
 - An industrial engineer was appointed to assess the productivity of staff within the warehouse, which resulted in a reduction of staff and subsequent savings to Shatterprufe.
- Planning
 - The planning function was moved from the logistics division to the manufacturing units resulting in:
 - A direct commitment to the export business unit
 - Simplified lines of communication

- A planning system was established for crate and container utilisation to:
 - Ensure that correct standards are applied for the profitability model
 - Ensure that the correct crates and quantities per crate are utilised
- A container module was established to plan container packing in order to maximise utilisation
 - The number of crates was rationalised
 - Toughened parts utilisation improved due to crate re-engineering
- Initiative implemented to link the planning system between Shatterprufe and its customers.
- Debtors

A monthly action plan was established with ongoing monitoring and pro-active support from the export business unit.

Implementation

The solutions and changes to the business occurred during the initial six-month contract period with the results being monitored on a monthly basis during the year following the contract period.

Results & Achievements

Savings of R1 800 000 were generated during the six-month contract period with an anticipated R3 700 000 in the year to follow.

All of the targets that were established and agreed to by Shatterprufe and SCS were achieved and improved upon.

Description	6 Months Y.T.D. Average to June 2000	Target	Actual	% Variance Actual to Y.T.D. Ave
Trading Profitability	R682 000	R1 600 000	R2 416 000	+254%
Stock Days	123	111	104	-15%
Debtors Days	94	85	72	-16%
Stock throughput	103 000 units	121 000 units	130 000 units	+26%
Operating Cost Per Piece	R27	R24	R21	-22%

The following charts (one to five) reflect the monthly results of the performance measurements.

Chart 1: Trading Profitability

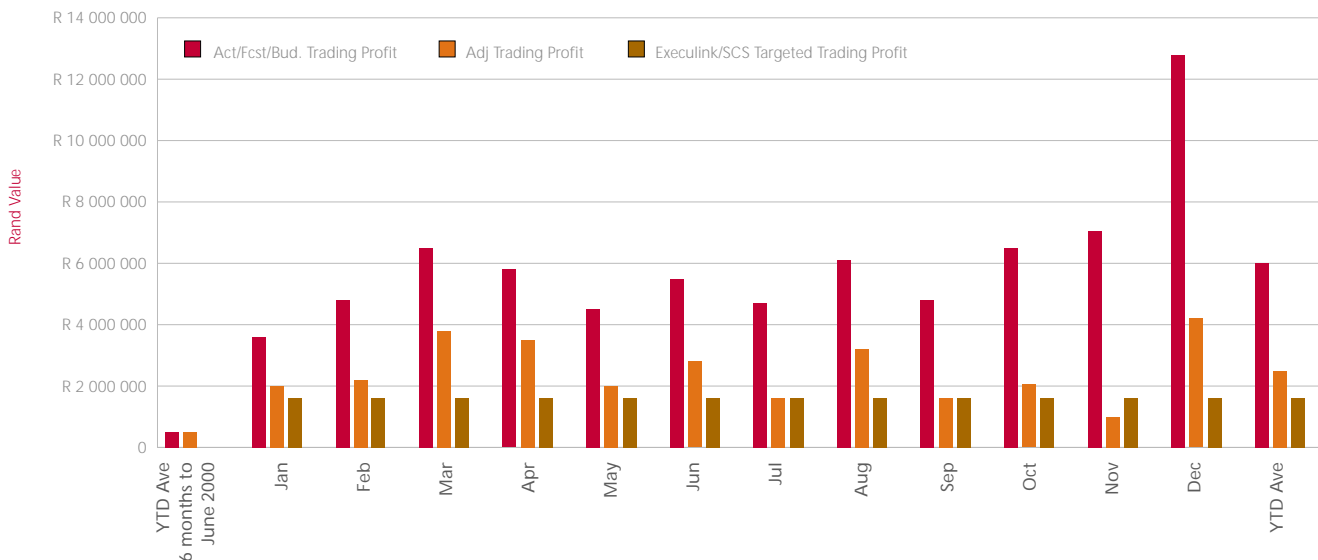


Chart 2: Stock Days

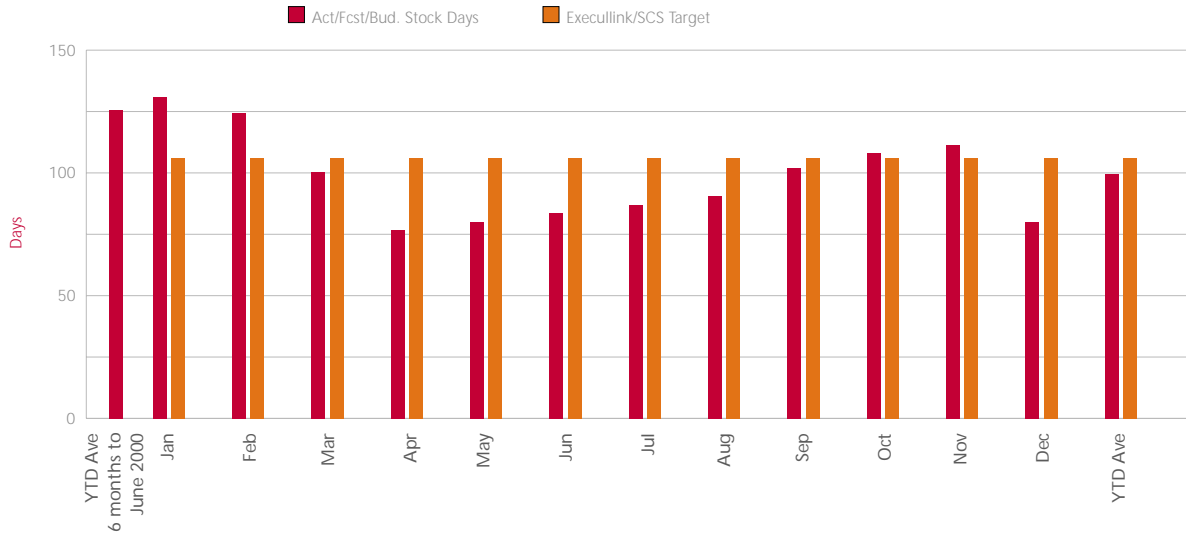


Chart 3: Debtors

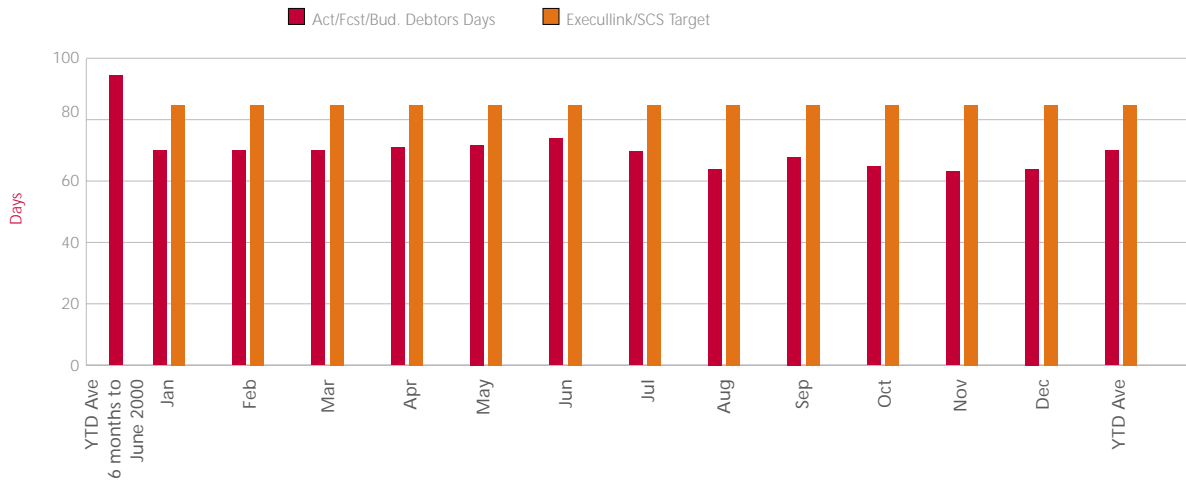


Chart 4: Warehouse Throughput

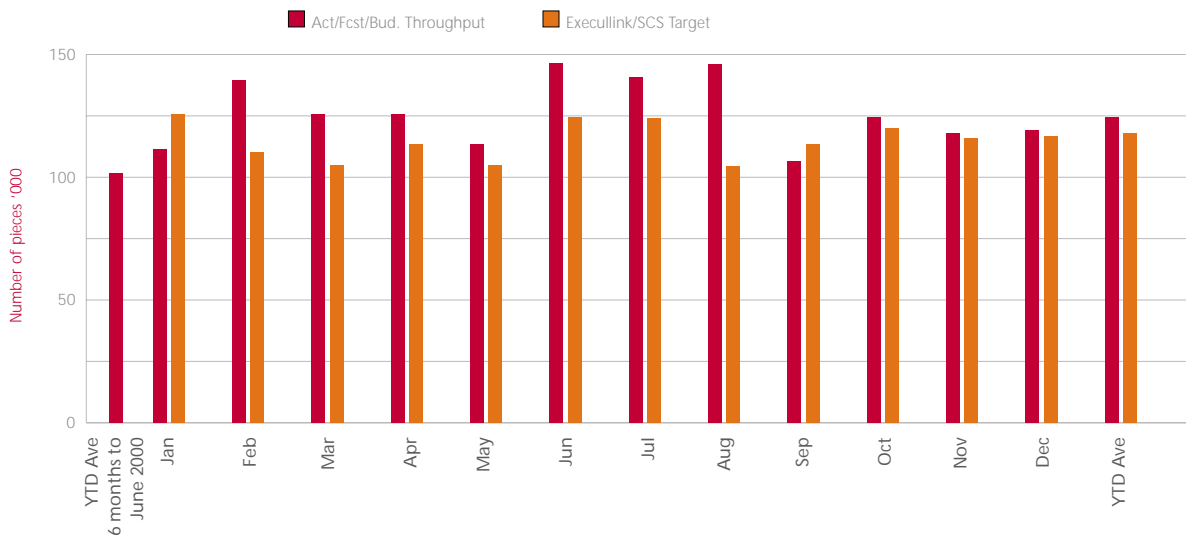


Chart 5: Operating Cost per Piece

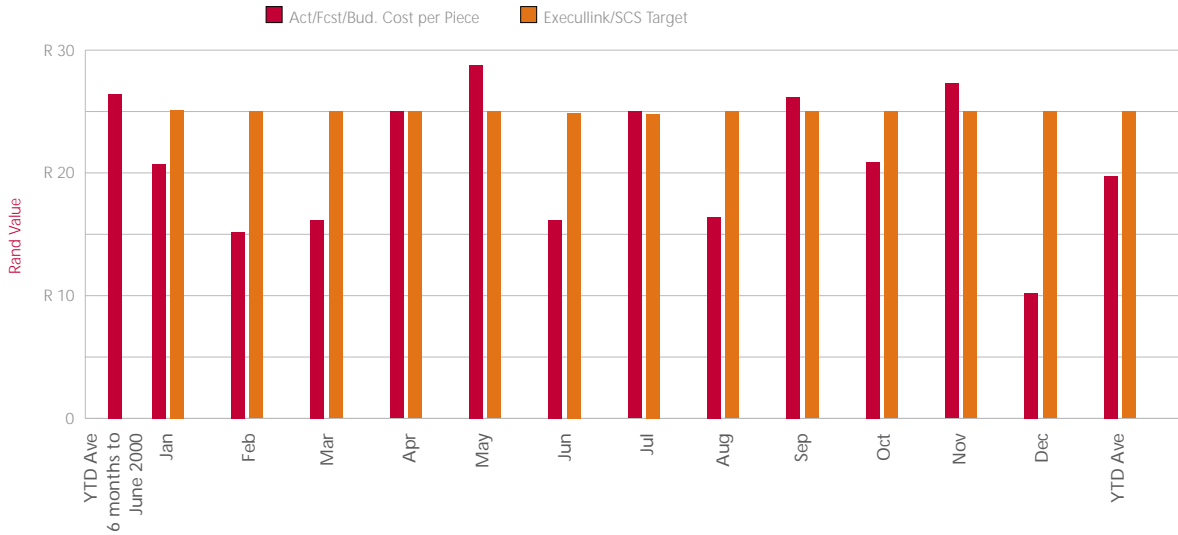
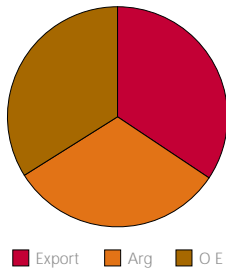
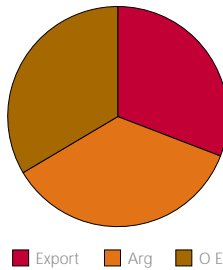


Chart 6: Sales Revenue by Market

1998 – Export Growth 0%



2000 – Export Growth 40%



2001 – Export Growth 11%

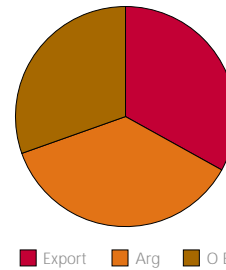
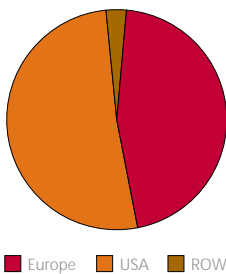
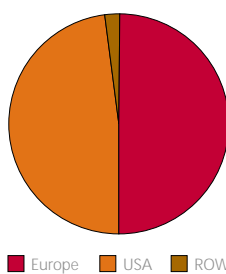


Chart 7: Worldwide Export Volumes

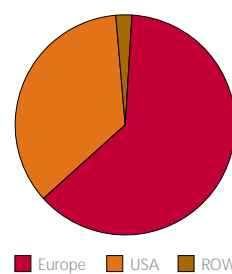
1998/9 – Actual
Total Pieces: 738
Growth: 46%



2000 – Forecast
Total Pieces: 730
Growth: 1%



2001 – Budget
Total Pieces: 850
Growth: 16%



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