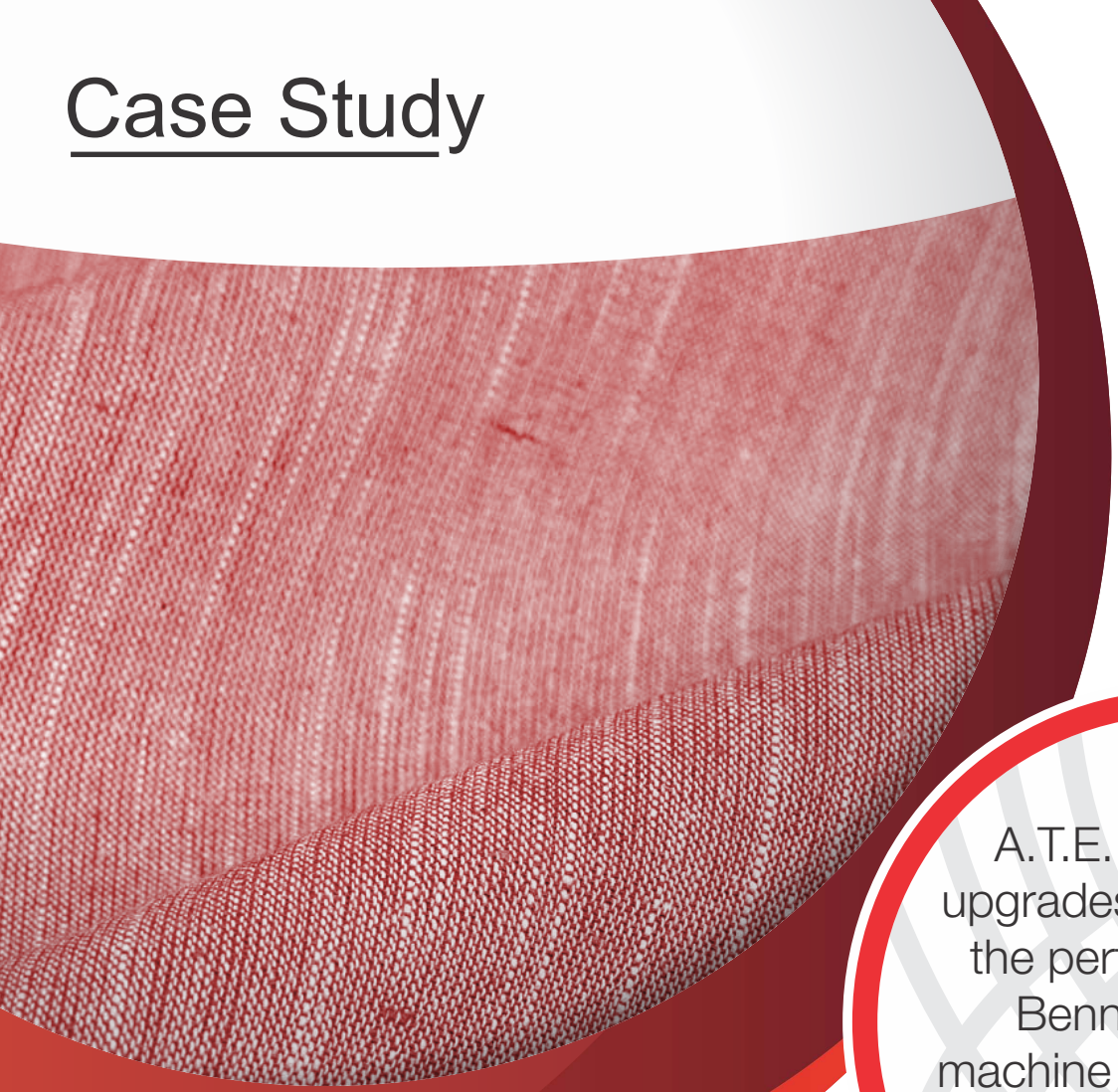
Case Study



A.T.E. successfully upgrades and improves the performance of a Benninger sizing machine that was under shutdown for about 8 months for want of spares!

CLIENT

A leading home fabrics manufacturer
in South India

The customer is well-known textile manufacturer from South India, who specialises in home fabrics such as bed linens, table linens, curtains and other home fabrics. The unit is equipped with warping and sizing, weaving, dyeing and processing machines, and a stitching unit.

Challenges

The customer has a Benninger sizing machine with a double size box. Both size boxes were run through a transmission shaft whose mechanical drive was through the cylinder drier.

This machine was equipped with Siemens S5 Rack PLC (programmable logic controller) and Interbus distributed I/O (input/output) modules. The machine had 3 Dietz drives which were operated through a common rectifier DC supply and a DOS-based PC.

The machine was under shutdown for about 8 months due to the failure of various parts and the non-availability of parts, etc. In fact, even before this long shutdown, due to frequent breakdowns, it was hardly possible to run the machine uninterrupted for even a month. There were several issues with this machine:

- S5 PLC card failure
- Non-availability of service for Dietz drives
- Unavailability of spares such as S5 PLC card, Dietz drives, Interbus modules
- Spares or pre-used spares were available at costs 3 to 5 times higher than the original costs
- Non-availability of service for troubleshooting and machine maintenance

The management decided to upgrade the machine and thus contacted A.T.E.

Solution

A.T.E. studied the machine and carried out the following cost-effective, and easily available, configuration:

- Latest S7-1200 series PLC for control system
- Siemens ET200S I/O system for distributed I/O
- Siemens Sinamics drives for motor controls
- 12" HMI
- Profinet communication for complete machine system as it is easy to maintain instead of Profibus communication

Results

- The machine started successfully after a long 8 months shut down
- Could achieve a production of up to 80 metres per minute
- Improvement in production quality
- Advance alarm generation system that triggers an alarm when a machine fault is detected
- Easy availability of spares locally

The customer was satisfied with the quality and workmanship of the machine upgrade carried out by A.T.E.!

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