

Case Study: Red Bull Technology Ltd



Software: JETCAM Expert Premium
High Performance Nesting
JETCAM Orders Controller
2 x JET-Term

Machines: Zund L-2500 Knife Cutter
Zund L-1200CV Knife Cutter

Installed: November 2008



At a glance:

- ✘ System paid for itself within 3 months
- ✘ At least 16% more efficient than previous software in benchmark tests
- ✘ More user friendly than other systems used by programmer
- ✘ Machine cycle time reduced by up to 42%
- ✘ Just in time nesting provides faster part turnaround
- ✘ Live reporting data gives immediate visibility of material costs on the shop floor
- ✘ Staff trained in one day
- ✘ More purchasing power due to better forward-planning information
- ✘ Lower maintenance costs
- ✘ Recommended by machine vendor

Red Bull Technology manufactures Formula 1 motor sport cars for Red Bull Racing. In 2008 the company decided to replace their existing flat bed knife cutter with two Zund knife cutters, one with a conveyor bed. They decided to evaluate CAM systems, investigating an upgrade to their existing CAM software as well as looking at alternatives.

Said Andy Bosworth, Production Coordinator; "We ran a series of benchmark comparisons and JETCAM had the lowest scrap rate and highest efficiency on material, with nests at least 16% more efficient than our current nests. It was also recommended by the machine tool vendor, which was a major factor in our decision to select it."

After the implementation of the machines in a new clean room staff were trained in November 2008. Licenses of JETCAM Expert with High Performance Nesting, JETCAM Orders Controller (for order management/reporting) and JET-Term (for DNC) were supplied. Training was completed in one day. Steve Brown, Composite Kit Cutter commented; "JETCAM is more user-friendly than our previous system, and also easier than another system I'd used in the past elsewhere."

Once the system went live Red Bull Technology saw a number of benefits, the most noticeable of which was the nesting efficiency. Supplies of composite materials can be limited and leadtimes can be lengthy, and so Red Bull Technology has to maximise their material efficiency. Steve noted; "Recently we had to make some parts but could not get additional material, so had to make do with the material in stock. On our previous nests we were running at 300mm short of requirement, but when I ran the plies through JETCAM's high performance nester it saved us 305mm - enough to complete the order." Andy added; "If you can't make enough of a part it can leave the team in jeopardy if they don't have enough spares. We outsourced the cutting of another order as we had no time to cut it in-house. The supplier was telling me that they needed 327 linear metres to complete the job, however when we ran it through JETCAM we did it in 287 metres, which at over £100 per m² equates to a £4k saving, and this on a nest we ran two or three times."

In addition to material savings Red Bull Technology also saw an increase in throughput on the machine due to features such as common-line cutting, which allow plies to be separated using a single cut rather than leaving a skeleton. Steve noted; "Our previous system would not always rotate parts at all available angles, and also could not perform common cuts. Previously one particular nest of a wishbone would take three hours to cut, but with JETCAM I can do it in 1 ¾ hours."

The process of loading JETCAM Expert with orders remotely is achieved using JETCAM Orders Controller (JOC). Steve cites that this has significantly improved time from order to nest; "Previously it was sometimes quicker to cut a ply by hand than re-nest it. Now we just load a complete part or individual ply orders into JOC and all required plies are immediately ready to nest. I can queue up all the jobs and combine orders and then nest them together. We can also save end of roll material and create smaller nests to better utilise it." JETCAM has extensive reporting capabilities, providing instant nesting efficiency and runtime statistics, which Red Bull Technology load onto their works orders. This provides the accounts department with immediate visibility of where material costs are within parts on the shop floor.

Purchasing also saw significant benefits; Andy explained; "Many materials are specific to the Formula 1 industry, with some even unique to Red Bull Technology. JETCAM gives me the scope to forward order and plan better."

Since installation the system has proven 100% reliable, with Red Bull Technology experiencing no down time because of either machine or software related problems. Their maintenance costs are also lower than before.

The motor sport industry is different to general manufacturing and has different indicators of success. Where most companies use the barometers of turnover and profit, Red Bull Technology has only one - the podium. Andy concluded; "We can't work too far ahead, as designs frequently change which would mean scrapping expensive parts. Where we save most is in time. We don't have the luxury of leadtimes like other industries. With JETCAM we are now able to produce parts much quicker than previously."

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