



## Whale Tankers Boost Productivity and Quality with ProNest<sup>®</sup>

### Company Profile

SOLIHULL, WEST MIDLANDS, UNITED KINGDOM—**Whale Tankers Ltd.** ([www.whale.co.uk](http://www.whale.co.uk)), is Europe's leading waste tanker manufacturer. The company started life offering mobile welding services before moving into the waste vacuum tanker and jetting equipment market in the 1960's. The company currently sells to local government utilities and private contractors all over the United Kingdom and Europe.

### Plasma Production Bottleneck

In 2001, Whale Tankers invested in a new Esprit plasma cutting machine with Hypertherm CNC control and plasma power supply. The machine came bundled with the manufacturer's original CAM system for offline programming. This rudimentary software was identified as a production bottleneck by Design Engineers **Steve Johnstone** and **Glenn Kemp**. They decided to review the market to identify a better, more powerful solution.

"We did some research on the Internet and identified two popular nesting CAD/CAM suppliers and invited the companies to present their offerings" stated Steve Johnstone. "The consensus amongst our team was that ProNest, from MTC Software, was by far the **most powerful and easiest-to-use**. MTC Software allowed us to fully test-drive the software system before making the investment."

### Attention to Detail

ProNest is able to integrate with Whale Tankers SolidWorks<sup>®</sup> 3D CAD software which allows full 3D component and assembly design. Glenn Kemp commented "Our new products are now entirely designed in 3D, from scratch. For the fabricated parts that need to be cut on our plasma machine, **the sheetmetal unfolding module within SolidWorks allows fast export of the flattened 2D shape to ProNest for full automatic nesting.**"



Dirty Water Recycling



Articulated / Monocoque Tankers

Photos courtesy of Whale Tankers Ltd.

### Did You Know . . .

MTC Software can provide one nesting program that will work with most cutting machines and CNC controls; new and old alike.

### Interesting Facts . . .

- ▶ Our employees understand the cutting processes you work with
- ▶ Our auto-nesting saves time and material, typically outperforming attempts to manually nest the same job
- ▶ Our ProNest software works seamlessly with all leading brands of waterjet machines, including Flow, Omax, Jet Edge, and many others
- ▶ Our products are so easy to learn that we can install the software and train a new customer online, the same day

“ProNest also provides us with other valuable features. For example, many cylindrical parts have intersecting tubes. When flattened, the joining holes become elliptical and these are output as very small point-to-point moves which caused problems at the cutting machine. ProNest was able to ‘smooth’ and replace the many tiny straight lines with blended arcs instead. This led to **improved motion at the machine and better cut quality.**”

Glenn added, “ProNest’s excellent feature for ‘tabbing’ the cut-outs on internal parts is also useful. It is important that the centre slug is ‘tabbed’ into position, so sheet integrity is maintained when the flattened shape is rolled into its 3D form. Once this is done, the slug is manually removed by cutting the tabbed links so the hole is ready to receive and weld the mating component. This was a major headache in our original software taking many hours of trimming part geometry to obtain the required tabs. With ProNest it is **simply a matter of ‘point and click’.**”



Combination Tankers

Photo courtesy of Whale Tankers Ltd.



## Return on Investment

Commenting on how **ProNest** has helped the company, Steve Johnstone had the following to say. “We (the design engineers) like ProNest because it solved a handful of problems that were causing major delays in our throughput. Initially, as the Design Engineers, we had to spend our time using the old software to generate nests for the shop floor because that program was just too cumbersome and complex to use in the production environment. Of course, as designers this distracted us from focusing on our main vehicle design tasks. With ProNest’s user-friendly design it is **ideal for shop-floor use**, and it’s now simply a matter of saving the CAD files on our network and letting the operators responsible for the cutting machine take care of the day-to-day nesting. In addition, **material utilization has been improved greatly.**” Says Glenn, “The shop-based engineers can now use ProNest to quickly and automatically nest new parts onto remnants from previous jobs. The nesting efficiency is much better than it used to be and faster. In fact, **ProNest has contributed to a year-to-date savings on material cost of £32,000+, effectively paying for itself within 3-4 months of purchase.**”

“Material handling of the skeleton material was also a major hold-up to the production cycle, requiring time-consuming manual torch cutup and removal from the machine bed”. Says **Mark Nind**, CNC programmer, “We purchased the Skeleton Cut-up module to overcome this bottleneck. ProNest automatically generates cut moves that cut the skeleton material into easy-to-remove “chunks”, sized to match our waste receptacle. When you add up that, this saves between 15-30 minutes per sheet in unloading time, over our annual production of 4,000 sheets, the **labor savings alone is significant (25-50 man-weeks per year).** This has also eliminated a hazardous task in the process.”

After attending a two-day training course at MTC Software’s UK office in Leamington Spa, Whale Tankers’ staff went straight into live production the same week. “ProNest is an ‘expert-system’ for profiling applications and we became productive immediately. A bonus was the cutting technology information came pre-optimised for our Hypertherm plasma power supply, so that cutting feedrates are precise for the material, thickness and size of the shapes we are producing. We no longer have to manually tune these at the machine.”

Glenn concluded by saying, “**We manufacture in excess of 250 vehicles a year. Overall, ProNest has provided a major improvement to our production process and has paid for itself quickly.**” ❖

# TECHNICAL BRIEF

## For More Information

Learn about MTC Software programming solutions that can help your company improve product quality and increase productivity and profitability. Visit our website at [www.mtc-software.com](http://www.mtc-software.com) or call your local office.



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