

## CASE STUDY: DELTA HYDRAULICS

Fine-tuning MapInfo Enables Delta Hydraulics to Win Targa Tasmania Rally Car Race



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*John White*

*Navigator, Delta Hydraulics Rally Car Team*

### TARGA TASMANIA

Targa Tasmania is an exciting International Classic. A tarmac rally with competitive stages on closed roads for the best touring, sports and GT cars in the world.

Unlike most rallies, it runs directly in front of the public - in the public eye and under public scrutiny. Also unlike most rallies, it involves up to 300 vehicles which must run at 30-second intervals in order to make the road-closing schedule achievable.

Targa Tasmania is surrounded by a great deal of hype and adrenaline, powered by a high level of media involvement - not to mention the exuberance of some of the competitors. All this makes Targa Tasmania the Ultimate Motorsport Management Challenge.

Now in its 15th year, Targa Tasmania has grown to become one of the world's true classic motor sport events, and a name that is known around the world.

[www.targa.org.au](http://www.targa.org.au)

[www.mapinfo.com.au](http://www.mapinfo.com.au)

### Summary

Delta Hydraulics' approach to business and car racing is the same: it wants to cross the finish line first.

### Company

Since it was founded in 1975, the Australian-owned company has grown to employ 85 people because of its focus on maintaining a reputation for precision engineering, product design and quality.

In keeping with Australians' enthusiasm for sports, the company is active in automobile racing with its Delta Hydraulics Rally Car Team. In fact, the team recently gained an edge over competitors in the 2005 Targa Tasmania Rally Car Race when John White, navigator, equipped its 2001 Nissan Skyline GTR VSpec II N1 with a fully automated, wireless, real-time navigational system.

The system uses MapInfo business partner Insight GIS' Geographic Information Systems/GPS-based program. It includes MapBasic, MapInfo Professional and Blue Marble GeoTracker from MapInfo and ensures the car's current position is always on the map and that race times are accurately recorded to within 0.1 of a second. It also eliminates the need for traditional paper maps while racing.

### Challenge

At first, the system required White to manually scroll the map when the cursor indicating the car's position reached the edge of the screen. While the MapInfo system was already a long way ahead of Delta Hydraulics' competitors, it was fine-tuned because White ultimately needed a solution which did not require him to interact

with it during races. To achieve optimum efficiency, the team also looked at automating its time recording capacity.

The enhanced system would give the team extra time to concentrate on other tasks and it would eliminate the possibility for human error. And given that the car travels at speeds in excess of 240km per hour and timing is to 0.1 of a second, the method of automatically capturing the start and finish time would require a complex design.

To detect when the car starts a race, a default circle was drawn around the start point. When the vehicle's position was recorded outside the circle, it was assumed the car had begun the race. However, the main consideration was to have the circle's radius larger than the accuracy of the GPS, but not too large, otherwise the precision of the timing would be lost.

The method of capturing the finish time was even more complex, as it was based on the creation of a buffer whose size was dependent on the speed of the vehicle.

Automated recording of lap start and finish times is also tremendously valuable when disputing official times. Official timekeeping is still done manually, using a stopwatch. White said, "A system that provides accurate out-puts without human intervention provides us with a very strong argument. Another advantage of installing MapInfo Professional is it enables event-based processing, such as identifying and selecting nearby features including hazards, or displaying a message when entering an area. This advanced feature enables the recording of event details during a race, for post-race analysis."

## THE MAPINFO ADVANTAGE



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### Insight GIS

MapInfo Authorised Business Partner

Suite 6 Level 1, 175 Collins Street  
Hobart, TAS 7000 Australia

T: +61.3.6234.5833

[www.insightgis.com.au](http://www.insightgis.com.au)

### MapInfo Asia Pacific Headquarters

L4 170 Pacific HWY  
Greenwich, NSW 2065 Australia

T: +61.2.9437.6255

[www.mapinfo.com.au](http://www.mapinfo.com.au)



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### Results

The Delta Hydraulics Rally Car Team competes annually in Targa Tasmania, an international tarmac rally which attracts the best touring, sports and GT cars in the world. White believes the team has a distinct advantage over other competitors in the Modern Competition category.

White said, 'Since installing the software, we have recorded our fastest times in both Targa and Rally Tas-and we crossed the finish line first in the Targa. We are now a highly competitive team.'

However, White says times have improved 'dramatically' since the recent upgrade.

The sophisticated time- and event-based recording program that was developed for the racing team has given Delta Hydraulics a highly advanced, entirely hands-free tracking unit. According to White, competitors on the world rally circuit are only just beginning to use GIS and GPS technologies. This means, in the technological race, Insight GIS and Delta Hydraulics have secured a first, just like they did in this year's Targa Tasmania.

