

SimFactory rising

3D modelling software is changing the face of Australian manufacturing, writes **Paul Gilder**

WHEN you're in a race against time — and highly organised competitors — every second counts.

That's where Australian manufacturing finds itself in 2015. The nation is grappling with the reality that the game has changed; it's no longer country versus country, now it's company versus company, with the most nimble and innovative rising to the fore.

Invariably these are the ones able to tap into the global supply chain, recognise what they're good at and remodel their business accordingly.

Right in the thick of it all is Alec Poulton, who through his 20-year technology business, Glenvern Associates, is essentially selling tickets to where Australian manufacturers aspire to be.

The Forest Hill-based company doesn't make anything itself, rather it uses a suite of highly specialised 3D simulation modelling software to provide manufacturers with the means of optimising their factory floor.

Mr Poulton said Glenvern, which is licensed to use British-based Emulate 3D software, differs from other virtual simulations by integrating physics-based measurements into its demonstrations.

This allows manufacturers to test how different product load types react on their production line; they can



Alec Poulton's 3D factory mapping software applies a physics-based approach. Picture: JASON EDWARDS

gauge which conveyor belt speeds, surface grip and gradients will deliver the most efficient and error-free results.

And that's all before committing to the spend, which can typically stretch into tens of millions of dollars.

"We're able to incorporate a factory's own computer-aided designs and create an accurate 3D representation of their plant. They can make a demo of their product line and share it with their distribution network or within their own customer base," Mr Poulton said.

For those who remember the computer game *SimCity*, this is essentially *SimFactory*.

The software has aided companies as diverse as food processing plants to airport baggage handlers and stainless steel conveying system manufacturers.

Mr Poulton said with the rise of e-commerce, companies were using the software to prove the new-style distribution warehouse concept, where shelves of products are stored until ordered, then retrieved and boxed by robots for delivery.

"These pick-to-order facilities are built to handle lots of online orders, I've noticed in the past few years there's contract packers that specialise in this, where a lot of

the work is automated."

Australia, which is becoming more reliant on its services sector for growth, while preparing for a future without local car-making, acknowledges that manufacturing still has a vital role to play.

Even without Holden, Ford and Toyota it's a big generator of export dollars, the sector generating some \$42 billion in 2013-14.

Those efforts are due to a multiskilled workforce, with the sector remaining the nation's fourth biggest in terms of total jobs at just shy of a million people, according to the Australian Advanced

Manufacturing Council.

Mr Poulton said Australia had the nous to match it with the world's best, but needed to play to its strengths.

"In terms of Australia, our future lies in the more premium product (as well as) innovation; we're renowned for being able to achieve good results on a tiny budget.

"I think we have one of the most competitive consumer markets in the world ... if you're successful in Australia with a product, you're highly likely to be successful overseas."

One important advancement, he said, was in the factory's ability to interact



with automated guided vehicles, or AGVs.

These carts typically carry repeat heavy loads throughout the plant but the problem comes when manual handling is required at the end of the automation line.

"It's a big OH & S (occupational health and safety) issue," Mr Poulton said. "The cost for OH & S-related injuries is one of the significant things for a company, so end-of-line palletising, for example, is a big focus."

Quite apart from the potential problems they cause for humans, AGVs also need regular maintenance and in some cases, hours of recharging.

Emulate 3D can assess an existing AGV-reliant workflow, show ways to reduce any crossover points and wasted downtime and perhaps point out the value of a second charging station in order to maximise output.

Despite the beneficial effects of a lower local currency, Mr Poulton said Australian manufacturers competing directly with Asian rivals would continue to find the going tough. However, he pointed to the opportunities for the food export market as a reason for optimism.

"Food processing is something Australia does well because we've got the resources," he said. "Based on the last 18 months' experience, going to the trade shows, the really good ones have been food-related. I see it as a big hope for Australia."

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Burgeoning signs of a tilt at All Ordinaries' all-time high

IN LAST week's column I explained how I expected we would see the market make a lower low before it was likely it would turn and reverse to the upside.

As it turned out the All Ordinaries and the other indices all traded lower on Tuesday and Wednesday. Then on Thursday the strong move up formed a daily pivot point to the upside and if this move continues we may see a weekly pivot point form by the end of this week.

For that to happen, the All Ords will need to close this week above 5563 points.

After that we will have to wait for the daily pullback, also discussed last week.

If we have seen the end of the move down and the five-



DAY TRADER with DARRYL MORLEY

point reversal (also discussed last week) becomes the measure for the likely leg up, then we can measure the target for this move from last week's low of 5463.

The measure for the move then becomes the difference between the high and low of the fifth leg of the five-point reversal (which is 5799 minus 5463) being 336.

If this is added to the high of 5799 we have a target of 6135. As this will put the index above the spike high formed in May 2008 I would then expect some consolidation at

this level before the next move begins, which will see resistance at the all-time high of 6853, formed in November 2007.

When that level is reached, and depending how the market behaves as it approaches it, we could see new highs reached and I will explain at that time where I think the market will move to after that.

Now to some sectors and stocks that appear to me to be likely frontrunners in any move up from here.

The banking sector is still

PORTFOLIO POSITION

Cash	\$319,619	All figures are at close of trade on Friday
Shares	Nil	Starting capital of \$50,000 in July 2006
TOTAL	\$319,619	Email: daytrader@heraldsun.com.au

Potential investors should seek professional advice before buying shares to determine whether such action is appropriate for their investment objectives and financial situation.

looking positive as three of the big four, ANZ, Westpac and the Commonwealth have all traded well above their respective 2007 highs and, in each case, the recent respective moves down seem to have been arrested at or above those 2007 highs.

National Bank is the only one lagging, as it has not as yet moved above its 2007 high.

Both of the big miners, BHP and Rio Tinto, are still in a clear downtrend and have

not come close to breaking the downtrend yet. It is worth noting neither has come close to breaking their 2007 highs and, if they do reverse the downtrend, they have a long way to go before they reach those 2007 highs.

Some of the healthcare and pharmaceutical stocks are also likely to be at the forefront in any move up.

Some of the stocks in this sector that have remained above their long-term trend lines during the recent move

down include Ramsay Health Care, Cochlear and CSL. Both CSL and RHC have continued to move up strongly for the past few years and have only pulled back to the uptrend line during the last few months.

COH on the other hand has been trading between \$45 and \$80 since its high in 2007. It was earlier this year that it finally traded above the \$80 resistance level and over the past couple of months has pulled back to retest the \$80 level so I expect it to move up from here.

Next week I will look at software stocks.

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