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Will zero be the hero?

We live in challenging times and for those of us in Australia involved in the automotive industry, more challenging than most.

We hear almost daily of cutting edge advancements in automotive technologies, particular those related to low emission vehicles or LEV's as they're referred to; hybrids, E85 ethanol, electric, biofuels, hydrogen. One thing is for certain the challenge to achieve zero emission vehicles is here, however a greater challenge already exists.

Only this month we've seen reports that cleaner fuel being used overseas could reduce harmful emissions but may lead to higher fuel prices.

The challenge facing Australia's petrol companies is an early introduction of stricter fuel quality standards for petrol-engined cars, could spell the

end for local fuel producers. In a submission to the Department of Infrastructure draft regulation impact statement looking at the effect of bringing Australian fuel quality standards in line with those in Europe, the Australian Institute of Petroleum - which represents the interests of fuel producers - said the refining industry was already facing "an extended period of significant competitive pressure" from overseas refineries, and that the industry "cannot afford unnecessary new capital expenditure".

Australia's current Euro IV fuel quality standards allow petrol producers to cap the amount of sulphur in regular unleaded fuel at 150 parts per million and premium unleaded fuel at 50 parts per million, compared with 10ppm for fuel refined in Europe. The challenge is that the AIP submission said research showed Australian fuel producers would need to spend

\$1.3 billion on new equipment to be able to produce premium unleaded petrol with sulphur levels at 10ppm.

Likewise, the Australian Automobile Association, which represents motoring groups such as the NRMA and RACV, argued for an earlier introduction of the stricter fuel standards, but warned that it would cost motorists more at the pump; the Federal Chamber of Automotive Industries, which represents car and vehicle component makers, argued against the early introduction, it also argued that hybrid and electric cars are likely to account for 20% of the vehicle market by 2020, a fact that was not taken into account in the draft regulatory impact statement.

So there's our challenge, we can produce cars that are cleaner, greener and better for our environment, cars that will in their own way help extend the life of our planet, but, and it's a big but, it is going to cost all of us more and almost immediately.



The story of an old bag...

Back in November a study from Monash University Accident Research Centre reported that in the last 15 years 2700 lives had been saved and a further 36,000 drivers and passengers had escaped serious injury on Australian roads thanks to the fitment of airbags and other vehicle safety advances. The technology is believed to have saved Australia's economy over \$18 billion which would result from lost productivity and community impact. So where did the airbag come from and what is its future?

Well actually the answer to who invented the airbag is a little hazy; rudimentary designs for a 'compressed air cushioning system' date back to as early as 1951 and a patented design by German Walter Linderer. However a similar patent exists registered to American John Wenrick and his 'safety cushion' in 1952. 17 years later, both patents expired and Dr David S. Breed further developed key components for automotive use and marketed the system to Chrysler in 1967. It is Dr Breed therefore who is widely credited with the invention.

By 1973 General Motors were fully testing an 'Air Cushion

Restraint System' based on this early technology, which they fitted to Chevrolet vehicles for government official's use and by 1976 had airbags as an optional extra on sale to the general public. In 1980 Mercedes-Benz introduced the airbag to Europe as an option on its always groundbreaking S-Class and by the mid 80's Porsche, Honda, Ford and Chrysler had all followed suit. By 1990 Chrysler had driver airbags fitted as standard across its entire range and throughout the 90's most manufacturers adopted airbags as either a standard fit or an optional extra.

The benefits of airbags were clear for all to see and passenger-side airbags quickly followed. With 40% of serious injuries the result of front impacts, this was a clear focus, but more recently side impact airbags have also been widely introduced (side impacts account for a further 30% of serious injury from impact).

This with it brought a number of challenges due to the timing involved in inflation. With a front impact, the bumper, engine and bonnet area could absorb part of the impact which allowed 40 milliseconds for inflation. But with side impact, the door is the only absorption point so the airbag needs to inflate within just 6 milliseconds!

A combination of better inflation techniques, trigger sensors and reinforced doors made this possible with Volvo and BMW leading the way in the late 90's.

By the year 2000 various advances in airbag design had been introduced including knee airbags from Kia and curtain airbags from Toyota and more recently last November, Mercedes-Benz displayed their new S-Class safety concept vehicle to the world, which showcased their all-new 'seatbelt airbag' technology. This is likely to be an option on the next model and is reportedly being fitted as standard on the upcoming Lexus ESF and the Ford Explorer (which will fit them front and rear) in 2011. It is likely this will become the norm in the near future and the trends reported by Monash University will continue in the same direction.

Nowadays, when it comes to airbags everyone is in agreement that the more there are the better, and manufacturers continue to evolve those original ideas from Linderer, Wenrick and Breed to find ever improving uses for their cushioning system technology.

Are hybrid vehicles becoming a day to day reality?

The concept of mass produced hybrid vehicles is nothing new, just look at the 2 million+ Toyota Prius on the roads across the globe today for proof of that, but taking hybrid into mainstream motoring is another venture and one Toyota Australia have recently embarked on with the launch of the Camry Hybrid, but will mass produced, mainstream hybrid vehicles, become a reality?

Having driven the new Camry Hybrid at its recent launch, I was very aware that this was a

CONT'D.... Are hybrid vehicles becoming a day to day reality?

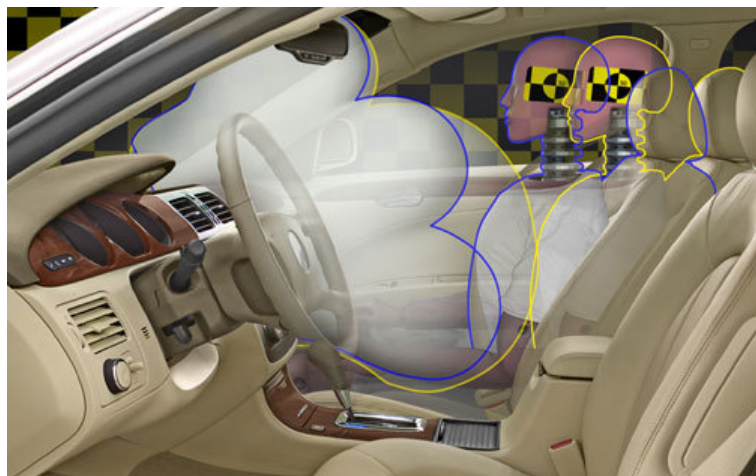


mainstream vehicle aimed at a highly competitive segment of the Australian motoring market and with good levels of specification and strong market pricing, a serious attempt to put hybrid into the mainstream, but will it work?

The first question most people ask is who will buy this vehicle and having spent the last week driving one I think the answer is anyone who's not a boy racer, this is an everyday vehicle built for the masses with economy and the environment in mind, a smooth and effortless drive that gets you from A to B in a pleasant and stress less manner, but is that enough? The drive is effortless from the time you push the start button until the time you stop, it's quiet and comfortable with a modern and sophisticated cabin, in fact there's nothing that's quirky about the vehicle at all, but will it work?

As the market for mid size diesel vehicles continues to grow and the battleground of economy and good value continues to heat up, some might say that launching a mainstream hybrid is an inspired choice taking the fight to both traditional petrol and diesel vehicles alike but is this how buyers see it?

Technology has become more of a consideration for buyers as their needs have changed and items like satellite navigation, rear park assist, reversing cameras and auto sensing lights, have become the everyday norm. With the cost of fuels slowly continuing to increase and the overall costs of motoring under more scrutiny today than perhaps they have ever been, economy is very much on the radar.



CONT'D.... Are hybrid vehicles becoming a day to day reality?

So will hybrid vehicles become a day to day reality? Perhaps they already have, maybe not in Australia yet but they may in time to come, one thing is for sure with average litres per 100 kilometres in the low 6's and purchase and running costs the same as their petrol counterparts, would you not want to save money, the choice is finally yours?

Provided by Tony Brand, General Manager of Innovation Group's Sydney based vehicle assessment team.

From the UK- it's a fact that the FIAT Punto's horn has the "beep" that causes most stress to motorists!

In a unique experiment in the UK, the FIAT Punto's horn had the most profound effect on people's heart rate, skin conductance and brain activity, which are key indicators of stress. The findings of the experiment kicks off a wider 'Respect on the Road' campaign that will highlight the effect of disrespectful driving behaviours and encourage greater courtesy on British roads. The majority of drivers (79%) feel there is a lack of respect on the roads today and nearly half (48%) view a horn honked in anger as the

2nd most disrespectful thing another driver could do to them.

For the stress experiment, neuroscience specialists Mindlab connected participants to biometric monitoring equipment and recorded signals from their brains to show demands made on memory and to determine the relative distraction of horns on the top 20 best-selling cars.



Following close behind the Fiat Punto on the stressful car horn scale was the Vauxhall Astra in second place and the Nissan Extra in third.

The Top 10 most stressful car horns in the UK were:

VEHICLE & MENTAL STRESS RATING

1. Fiat Punto	0.8
2. Vauxhall Astra	0.6
3. Nissan Extra	0.44
4. Ford Focus	0.37
5. Seat Ibiza	0.36
6. BMW 320	0.35
7. Ford Fiesta	0.35
8. Ford Galaxy	0.32
9. Peugeot 307	0.32
10. SAAB 93	0.31

FIAT Punto



Source: Automotive Desktop 14 February 2010 - AXA Insurance Findings

CONT'D... From the UK

Daylight Savings and your night vision, what does it mean to you?

The end of daylight savings means there will be more Australians who have difficulties seeing on the road after dark, the TAC and optometrists have warned. A national survey of 1000 Australians, aged 18 to 25, has found one in three drivers are concerned their vision might impact their ability to identify hazards at night.

More than half (51%) of the women and 36% of the men also rated their night vision as "poor to average".

The Traffic Accident Commission (TAC) and the Optometrists Association Australia said night vision was a key factor in road safety, particularly as the days shortened into winter and standard time resumed in those states with daylight savings.

"As the days get shorter, the need to drive in darker conditions naturally becomes more prevalent," said TAC Road Safety Manager, Samantha Cockfield. "Good vision is essential to a drivers' ability to identify hazards and concentrate on the roads, especially on dark stretches and in poor weather conditions.

"The findings reiterate the importance of having regular eye checks to ensure you are as fit as possible to drive safely on our roads." The survey found 14% of respondents said they avoided driving at night due to difficulties with their vision.

When quizzed for factors that made night driving more difficult, 91% of respondents said tiredness was an issue. The strong lights of oncoming cars (86%), distractions within the car (82%) and eye conditions such as short-sightedness (32%) were also well supported.

Optometrists Association Australia professional services manager Shirley Loh said drivers who were concerned about their night vision should see an optometrist for an eye exam. Corrective lenses could improve eye comfort and take stress off of your eyes when driving, she said.

"It is common for people with perfect day vision to have difficulties seeing at night, including blurriness, double vision or seeing haloes around lights," Ms Loh said. "Dry, tired or fatigued eyes are other common problems for many people, particularly those who have worked or studied for long periods."



Source: Australian Associated Press - April 2010

Systems Galore

Being a business that deals in the development of software and the provision of software based services that manage processes, new hardware and system enhancement and development within our market is closely monitored. At present approximately 50% of our major clients have either completed the implementation of new software and are in the process of bedding it in, are still implementing or have signed off on implementation.

From observation if one needs stress in their business then the implementation of a new system is bound to do it, not only for staff of the implementing business, but for their customers as well.

Common to this scenario appears to all too frequently be the interpretation and understanding of the requirement that is conveyed to the developer. Too often the message can get lost in the passion that one has for their business and the failure by the developer to comprehend and understand the clients business fully. Whilst eventually both parties get to a mutual understanding in what they want and are required to deliver, it can result in potential casualties, especially when it comes to customers, whose patience can be tested. Motor vehicles are an emotive subject, just ask any fleet manager and any delay that is system generated will only result in further tension.



The best intentions will lose out every time (well just about) when it comes to satisfying the pressures of where is my vehicle. But if you have a supplier that is in one of the stages of system implementation that we outlined earlier, then a degree of patience is in order, especially in the ability of your supplier to provide you with scalable end-to-end solutions, driver management applications, and regional strategic ecosystems.

Whilst monthly rental, what's in the management services and value-adds are important in the decision making process, the system that your supplier uses to support your relationship is also very important and should be benchmarked on what it can deliver when any relationship undergoes a review.

To get an understanding of the role and importance of new

system take-up by the fleet industry, check out the following site:

http://www.businesswire.com/portal/site/home/permalink/?ndmViewId=news_view&newsId=20100408005991&newsLang=en

What is interesting is that while Europe has big plans for future development, their implementation is a couple of years off, while local based FMO's are making the running with new implementations and certainly taking the risk.

How is the market place going to set residuals on electric vehicles?

I read the following article with interest in a recent Fleet News¹ publication (UK) on the stance of a Guide Company, CAP, in respect of setting residual values on electric vehicles that will hit their roads over the next five years. The UK stance begs the question - how will the local equivalents respond? But more importantly how will the Fleet Management Industry respond, who in Australia tend to set their own residuals rather than rely on an external force. Traditionally residual setting in Australia has been a combination of market forces and market competitiveness.

The UK based Research Company CAP has decided to only provide residual value data for electric vehicles which are sold with batteries included. This has caused disagreement among the car manufacturers bringing zero emission vehicles to the UK. In order for vehicles to have residual value data attached to them, CAP insists that the battery must be owned as a part of the car, and not leased.

The Company based its stance on the fact that - It would be

impossible to attribute any residual value to a vehicle which could, in theory, lack the means to operate. However, for the manufacturers bringing electric vehicles to the UK from late this year, that decision goes against their current thinking.

A spokesman for Renault, which will be launching two EV models in the middle of next year and two the year after, said: "In our view the emerging EV sector requires a new way of thinking compared with conventional vehicles. CAP has made it clear to us that in order to qualify for the residual value forecast process the battery must be owned as part of the car, not leased separately. We are still reviewing a number of battery ownership options in addition to our preferred lease route. We still believe that leasing the battery gives our customers the best possible solution."

Renault intends to sell its EV models without a battery pack at the same price as an equivalent diesel-engine vehicle, once the Government's £5,000 subsidy is taken into account.

This avoids the problem of exorbitantly expensive EVs, as Mitsubishi has found with its announcement that the i-MiEV city car will cost £38,699 (£33,699 with Government grant). The i-MiEV is sold with a battery pack as part of the purchase price.

Nissan, Citroen and Peugeot have all yet to make any decisions on what route they will take with battery packs for their electric vehicles. However, a Peugeot spokesman added that the viable way forward is to lease the batteries, especially as the packs can cost anywhere from £10,000 to £15,000.

CAP's announcement comes after a major review of the EV sector launched last month. It is designed to pool all the knowledge necessary to help potential owners and operators make informed business decisions about their future risk position in this emerging field.

Mark Norman, of CAP's EV Review Group said: "It is tempting to assess electric vehicles in the same light as those with conventional engines. Many people in our industry are therefore already writing them off as inferior in terms of convenience and everyday usability for the whole range of purposes for which we currently use road vehicles. That kind of dinosaur thinking is short-sighted because it fails to recognise the potential for social, political, taxation and business change which may well bring new ways of using road transport. Therefore one of the major challenges in this field is that you are not only trying to forecast vehicle residual values but forecast changes in society too."

This positioning comes at a time when the European market is gearing its self up for the launch of a number of electric vehicles, and to a degree their success especially in the fleet market will be driven by the residual setting which is a major contributor to the monthly rental, it is to be expected that local guide companies and FMO's may well adopt a similar approach on the basis of let's play safe before embarking into uncharted waters.

Australian FMO's and their customers will, for the foreseeable future, continue to make their choices on the basis of value for money, especially where it comes down to the monthly rental. When operating and ownership costs for traditional vehicles start to become unrealistic then we may see a change, but at this stage it is more likely to be commercially driven than environmentally or conscious driven.

Source: Fleet News, April Publication.
Julian Kirk

