



Late April 2020

Welcome to the SAE-A's E-News. This publication augments the quarterly VTE magazine by providing members with the latest news in a format that allows it to be passed on via email. We hope you enjoy it and encourage you to be actively involved in its content.

SAE-A specifies all-Australian car of the future

Electric, autonomous, composite, modular – these are the hallmarks of a unique Australian car that SAE-A believes can rebuild the local car manufacturing industry.

SAE-A Chairman and CEO Adrian Feeney said the global car would energise Australia's automotive sector with uniquely Australian engineering and manufacturing strengths.

"The COVID-19 crisis has shown the importance of car manufacturing, and we propose to start with a car that no other country could build," he said.

"We would design it at the cutting edge of near-horizon technology, and we would build it in the medium volumes which Australia has always done superbly.

"So what would it look like? It would be electric, nominally autonomous, built of advanced composites and made in a total volume of 50,000 to 100,000 per year.

"It would be a modular family of specialist vehicles for world markets – imagine a police car, an ambulance, perhaps even a light military vehicle all off the same platform."

Mr Feeney said the key to a reborn Australian car industry was to make the most of what our car and component manufacturers had always done better than others.

"We have always achieved more with less – more performance, greater strength and value for money, with



smaller budgets, fewer engineers, and tighter economies of scale," he said.

"We still have the core engineering and manufacturing skills here, and if we have learnt anything from this current situation, it is imperative that we do it and do it now."

Mr Feeney proposed a project similar to that which produced the aXcess Australia concept cars 20 years ago – two aspirational cars that generated billions of dollars of export sales.

He said those cars had drawn on more than 130 Australian component manufacturers, and quite a few of those manufacturers were still in business.

"For example, the first car was made of advanced composites such as Kevlar – and right now in Australia



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SAE-A HITS THE NEWS CHANNELS

On 20 April 2020 the SAE-A successfully engaged with the media initially by sending a press release titled *SAE-A says rebuild car industry to save lives*, the media responded well and numerous stories appeared in print and on electronic media.

In general the story sparked a very positive reaction and gained well deserved traction for the SAE-A and its members.

To put it into context the release which was sent out via a number of proven avenues, was opened by 21 “top editors” on the AAP Medianet list, and 47 subscribers to Autodeadline opened it, it was also viewed on the SAE-A Facebook page and on LinkedIn.

The story appeared in:

- BodyShop News
- GoAuto
- Whichcar
- Car4Starters
- EVtalk
- Autotalk
- AAP medianet
- Renewable Energy
- National Tribune
- Mirage News
- First 5000
- ConnectWeb
- Radio 3AW

Added to that, Adrian Feeney SAE-A Chair and CEO received media calls, and we know it was on at least one radio station (3AW).

This is good news for the SAE-A and marks a turning point that shows the association is being regarded as a point of call for the media when the topic of vehicle engineering comes to the fore.

Consistent work by the SAE-A's public relations professional, Greg Shoemark, is starting to make an impact.

Inroads have been forged re-establishing the society as a voice to be heard and as an important representative for Australia's vehicle engineering cohort.

Continuing efforts will ensure this first successful step continues to gather momentum.

we build cars with even more advanced Kevlar-carbon fibre panels,” he said.

“Its powertrain featured the then-advanced Orbital engine, but that would be replaced with the powertrain of the next generation, electric. The second aXcess Australia car was a hybrid electric vehicle.

“Of course, autonomous features were all but unheard of 20 years ago, but now Australian engineers are working on the latest systems for global vehicles. And then there's the legendary Aussie toughness – the history of our car industry overflows with stories of European and Japanese engineers being stunned by the strength of our cars.”

Mr Feeney said Australia's car industry had long enjoyed medium-volume manufacturing technologies unimagined by European, American and Asian manufacturers.

“Global manufacturers were amazed at how their local subsidiaries could build 50,000 cars with the same quality and efficiency as overseas plants with 10 times the output,” he said.

“If we move now to harness our engineering brainpower while we still have it, we can design and develop the cars of the future and the factories to build them. The time is right to put some money and some political will behind our engineers and our manufacturers and rebuild a specialist car industry that can be the envy of the world.”



ATO Simplifies deductions for working from home

The ATO has introduced a simplified method for claiming deductions for anyone working from home as a result of COVID-19 between 1 March and 30 June 2020.

This new method is to make tax returns simpler for anybody who has recently transitioned to working from home due to COVID-19, and ensures they are able to easily claim their relevant deductions.

Multiple people living in the same house can claim this new rate. For example, a couple living together could each individually claim the 80 cents per hour rate. The requirement to have a dedicated work from home area has also been removed.

Assistant Commissioner Karen Foat said the new shortcut method will make it easier for those who are working from home for the first time.

“If you choose to use this shortcut method, all you need to do is keep a record of the hours you worked from home as evidence of your claim,” Ms Foat said.

This new shortcut arrangement does not stop people making a working from home claim under existing arrangements, where you calculate all or part of your running expenses.

Claims for working from home expenses prior to 1 March 2020 cannot be calculated using this method.

The ATO will review the special ar-

angement for the next financial year.

There are three ways that you can choose to calculate your additional running expenses for the 1 March – 30 June period:

- claim a rate of 80 cents per work hour for all additional running expenses.
- claim a rate of 52 cents per work hour for heating, cooling, lighting, cleaning and the decline in value of office furniture, plus calculate the work-related portion of your phone and internet expenses, computer consumables, stationery and the decline in value of a computer, laptop or similar device
- claim the actual work-related portion of all your running expenses, which you need to calculate on a reasonable basis

The ATO has designed a tax time poster specifically for engineers which details what expense claims are available. To view this poster visit: https://www.ato.gov.au/uploadedFiles/Content/IND/Downloads/Occupation_guides/n75259-WRE-occupation-poster_engineer.pdf

The ATO approached SAE offering advice on simplifying engineer's tax returns. Without comment or commitment, we pass these details on to members for their consideration and possible action.

Ford offers Frontline Healthcare Workers free cars



Healthcare workers on the frontline of the battle with COVID-19 have been given complimentary access to the Ford 2nd Car program, as Ford's nationwide dealership network steps up to support local communities.

Frontline healthcare workers can reserve a vehicle through the program at any participating Ford dealer, to ensure they have safe, private transport for essential travel.

"We're grateful to every single person working in hospitals, clinics and facilities across Australia who are risking their own safety for the benefit of the wider community," said Kay Hart, President and CEO, Ford Australia and New Zealand.

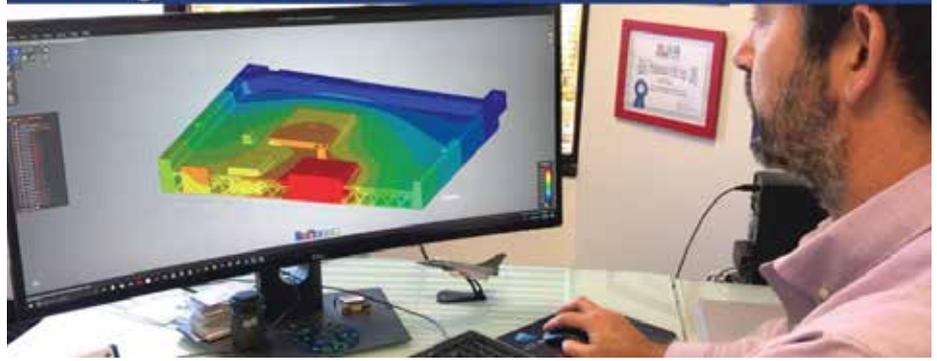
"We believe that they need every ounce of moral and practical support possible, and we hope that by offering Ford 2nd Car at no charge we can give them one less thing to worry about, making it easy for them to get to and from work so that they can focus on far more important things – like treating patients and halting the spread of COVID-19."

With disruptions to services, transport and life in general, frontline healthcare workers, including nurses, aides, laboratory technicians, doctors, paramedics and ambulance officers, are eligible to access a vehicle from the Ford 2nd Car fleet for up to four weeks.

The usual \$500 enrolment cost will be waived.

The Ford 2nd Car program is normally available to buyers of new and demonstrator vehicles, which allows access to an additional Ford vehicle for two weeks through a paid subscription.

Getting Started with FEA & CFD Simulations



Get Started on FEA & CFD Simulations with SAE-A's online course

Don't let the current isolation restrictions prevent you from continuing your learning and development. If you are about to embark on an engineering career, or perhaps you need to upskill with some of the latest and best software, this online training is the perfect opportunity for you to do so.

This is an introductory course intended for engineers who are new to, or have an intermediate level of knowledge of simulation. Attendees will gain an understanding of the basics and fundamentals of Finite Element Analysis and learn how to prepare CAD geometry to be ready for simulation & meshing, define loads & boundary conditions, apply correct physics and how to interpret & validate your results using best practices.

A series of lectures, demonstrations and workshops in ANSYS will offer the opportunity to apply these simulation techniques to a range of applications involving linear and non-linear structural mechanics and thermal analysis (along with an overview of other more advanced physics) and examples of new simulation capabilities such as generative design, composites modelling and additive manufacturing.

A technical education and background is recommended but an engineering degree is not a prerequisite.

Learn:

- FEA
- Geometry prep for FEA Linear Analysis
- Dynamics Analysis
- Non-linear Analysis
- CFD
- Geometry prep for CFD
- Fluent Meshing
- Turbulent Flow Modelling
- Heat Transfer Modelling

You may not need to be a simulation expert but all engineers need to understand simulations, what it is, how it can help you and more importantly how to use it. So why not make yourself more employable and valuable to your employer by learning something new.

The course runs from Monday 4 - Friday 8 May, 9am - 12pm (AEST). Training will be hosted using the Microsoft Teams platform. The online tutorials are hosted on the LEAP Learning Hub.

For detailed information on how to register and what to download visit: <http://www.saea.com.au/Events> or contact events@sae-a.com.au



Due to the COVID-19 (Coronavirus) pandemic some events may be cancelled or changed. The SAE-A will advise of those changes via email please ensure that you review your emails in a timely fashion to ensure you are up to date.

Engineers band together to fight COVID-19

Dolphin Products is manufacturing safety PPE glasses desperately needed by hospitals all around Australia to help fight the war against the Corona virus. The Chinese government restricted sending the protective equipment to Australia creating huge demand to manufacture onshore.

Erebus Motorsport is joining the global fight against COVID-19, by using the resources of its Supercars team workshop to develop and produce potentially life-saving medical supplies. Several members of the team have worked alongside Supercars medical delegate Dr Carl Le to manufacture devices that could provide protection of Health Care Workers (HCW) on the frontline.

Full-face masks (PPE) and a protective Perspex box designed to shield HCW's from infected patients, have been manufactured in the Dandenong, Victoria workshop.

A second device, the aerosol box; a transparent plastic box with an opening on one side, that can fit over a patient's chest and neck, while the opposite side has two holes through which doctors can insert their hands, plus an additional smaller hole for connecting suction to the box.



The 'e-Aerosol Box' is being trialled at two Melbourne hospitals with cost-efficiency and design allowing for 20 units to be produced per day.

Triple Eight Racing designed and built a working prototype of a ventilator in four days. It has been prototyped from readily available materials and could be deployed to help seriously ill patients. The prototype even carries its own on-board power supply to allow it to be used in makeshift environments.

Mat Bowtell, an automotive engineer who was made redundant a few years ago, has turned to making personal protective equipment (PPE).

Mr Bowtell, who owns 20 3D printers raised \$33,482 in community funding to produce up to 4000 PPE face shields for essential workers.

Meanwhile overseas, Jaguar Land Rover started delivery of 3D-printed visors, developed with the NHS for frontline staff. The company has also

supplied an additional 150 vehicles globally to humanitarian partners, of which 105 have been supplied to the British Red Cross, taking the total number of vehicles deployed to just over 300.

The company turned over its prototype build operations to start production of protective visors for key-workers, utilising its CAD design expertise to answer the government call for more vital equipment to fight coronavirus.

Nissan will begin making protective face shields for health care workers in Japan. The current plan calls for making 2500 shields a month.

Production will be at Nissan Technical Center, the Nissan Research Center, and the company's Yokohama Plant.

Nissan has already started similar initiatives in other regions such as the US, the UK and in Spain.



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