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MAY/JUNE 2020

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## SmarterLite

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INFRASTRUCTURE  
ITS TECHNOLOGY  
SINCE 1968

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**TAKING ROAD SAFETY  
TO THE NEXT LEVEL**



# Whether it's a TL-2 or TL-3 attenuator, your first question should always be: **IS IT MASH APPROVED?**



With the Austroads Safety Barrier Assessment Panel (ASBAP) 'Transition to MASH' final transition date of 31st December 2020 looming large, there's never been a more important time for equipment purchasers to ask the critical question: **"Is it MASH Approved?"**.

When it comes to **Scorpion® TMA's**, the answer is a resounding **YES** – for BOTH TL-2 and TL-3 attenuator.

In fact, the Scorpion II® Metro MASH TL-2 TMA is not only **THE FIRST** TL-2 TMA to be fully tested and approved to the latest MASH Standards, it is currently **THE ONLY** TL-2 Truck Mounted Attenuator to be successfully **TESTED, PASSED & ELIGIBLE** to the current MASH Standards.

So, whether it's TL-2 or TL-3, when it comes to selecting a fully MASH tested, passed and eligible TMA that has also been **ASSESSED, APPROVED & RECOMMENDED FOR ACCEPTANCE** throughout Australia by ASBAP, the only name you need to remember is Scorpion® from A1 Roadlines.



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## About the Cover

Renowned for their innovative and environmentally sustainable safety solutions for roads, infrastructure and the built environment, OmniGrip Direct, Safety Path and Vivacity have joined forces to form SmarterLite. The new company will provide a 'one-stop-shop' for specialist road safety surfacing, photoluminescent & LED signs and delineators, and photoluminescent pavement marking materials.

► Turn to **Page 12** for the full story.



# Building for a brighter future

Dear Readers,

While we suspected that the Covid-19 pandemic would have a massive and devastating impact on the entire planet, it's only as we continue to experience it, that we are beginning to understand just how far reaching the impacts of this unprecedented global disaster are. For all intents, Covid-19 has, and for that matter continues to have, a previously unimaginable impact on the day-to-day lives of pretty much every human on the planet.

Together with the horrific death toll and almost unimaginable levels of human suffering (both physically, emotionally and financially) Covid-19 has permanently changed the way that humans will interact both with each other and the environment as a whole. Then, of course, there is the economic toll.

Put simply, if in late 2019, someone had suggested to you that the levels of government borrowings and debt and that have been undertaken in Australia over the past four months would be widely welcomed and lauded by many as 'global best practice', you would have likely thought they'd taken leave of their senses. Yet, there we are - nearly \$200 billion committed so far and an expected deficit of \$500 billion... and by international standards, we're doing extremely well.

Perhaps most importantly, we, as a nation, can be fiercely proud of our collective achievements in managing Covid-19. I can say with full confidence, that when we started locking things down during February, nobody but NOBODY, would have dared to hope that we would pass the '100-days since first case detected' mark with less than 100 fatalities. That's not to downplay the seriousness of the illness and the sheer tragedy of the lives that

have been lost so far... but compared to the greater majority of countries, it's clear that the measures implemented across Australia have been directly responsible for saving many thousands of lives.

While I'm at it, I would also like to offer my sincere thanks and congratulations to our Governments for their unprecedented levels of cooperation across all tiers, their rapid and decisive responses and, perhaps most importantly, the total lack of partisan politics. As well as helping to minimise the impact of Covid-19 and control its spread, the past couple of months have provided clear evidence of what can be achieved when party politics and self-interest are 'parked' in favour of working together for the true *'greater good of the nation'*.

That said, we are clearly not done yet. In fact, we're not out of the 'danger zone' yet (being in winter places us at a distinct disadvantage). Even as I type this, we're still in the process of trying to reopen the country, and even if everything goes to plan, we're not scheduled to be through that '3-step reopening' process until the end of July at the earliest.

With that in mind, as challenging as the task of shutting down and reopening an entire country and economy is, I believe 'the Covid-19 shutdown' has presented us with a unique opportunity in terms of our nation's growth and development - especially when it comes to construction of new infrastructure, improvements and enhancements to existing infrastructure and asset management and maintenance in general. It also provides us with a unique opportunity to reflect on how we, as humans, interact with our environment, and how we can improve that relationship - especially in terms of transport.

Put simply, with so many activities not scheduled to return to full operation for

the foreseeable future (read: until there's a vaccine), now is the perfect time for maintenance and redevelopment.

While it may seem, on the surface, to be counter-intuitive to 'spend' money at a time where government debt is at an all-time record high, I offer this simple response:

- Capital expenditure on worthwhile new transport infrastructure, or improvements to existing infrastructure or facilities (read: actual construction and maintenance, not endless feasibility studies) is an 'investment' in our future - and an extremely worthwhile one at that; and
- Major infrastructure construction projects offer outstanding levels of gainful employment and subsequent wide-spread economic activity - both of which are critical in ensuring that Australia can 'bounce back' from the Covid-19 shutdown in the shortest possible time and in the best possible shape.

Perhaps most importantly, this opportunity exists across Australia in its entirety, not just in the major capitals.

While I feel certain that, given a choice, everyone would have happily foregone Covid-19 in its entirety, it is and always will remain a harsh reality in our world. And while it has caused almost immeasurable damage and suffering on so many levels, let's at least try and salvage some positives from the unintended consequences by using this unique circumstance to build / rebuild for a brighter future.



**Anthony T Schmidt**  
Managing Editor





## QuadGuard® M10

### Crash Cushion

**MASH COMPLIANT**

#### Reusable Non-Gating Redirective Crash Cushion

The QuadGuard® M10 is a redirective, non-gating crash cushion that consists of an engineered steel nose and crushable, energy absorbing cartridges surrounded by a framework of steel Quad-Beam™ panels. The system is tested to the Manual for Assessing Safety Hardware (MASH) Test Level 3. It can be used to shield fixed objects of 610 mm wide.

The QuadGuard® M10 system utilises two types of cartridges in a configuration designed and tested to address vehicles as defined by MASH for both lighter cars and heavier, high centre-of-gravity vehicles.

#### Advantages

- Self-supporting steel nose.
- Tension strut backup with Monorail guide stabilisers.
- Anchorage in concrete or asphalt (does not use anchoring chains or tension cables).
- High strength Quad-Beam™ panels.
- Damaged cartridges are replaceable



## ET-SS

**MASH COMPLIANT**

**Front Anchored Technology**

### MASH End Terminal

#### W-Beam End Treatment for End-on Impacts

The MASH compliant ET-SS is the next generation of guardrail end terminal and is compliant to Test Level 3. The ET-SS system uses a proprietary head with front anchored technology to anchor the WBeam from the loads exerted on the rail during an end-on or side vehicle impacts on the terminal. This front anchor also minimises the deflection of the downstream guardrail system to help contain and redirect an errant vehicle.

#### Assembly Advantages

- Splices at mid-span of the posts allow for easy assembly.
- Vertically compressed rail is flattened and maintains connection to unit for quicker repair and clean up.
- Slim design of the impact head, improving shy-line offset.
- Compatible with various proprietary and public domain guardrail systems.
- Protective cover available for vulnerable road users, ideal for shared use paths.



Optional System Offset up to 610mm over 15.2m

Head Width: 178mm

Available in TL3 and TL2 configurations

Length of Need: Starts at Post #3

Optional protective cover available for vulnerable road users



## Metro announcement a boost for Brisbane infrastructure

QMCA (Queensland Major Contractors Association) has welcomed Brisbane Lord Mayor Adrian Schrinner's announcement regarding the selection of the Acciona-Arup Brisbane Move Consortium as the preferred contractor chosen to deliver the Brisbane Metro project.

QMCA CEO, Jon Davies congratulated Council and the winning contractor.

"We are delighted that the Lord Mayor and Council have reached this important project milestone and congratulate QMCA member Acciona on their successful bid as part of the Acciona-Arup Brisbane Move Consortium."

"We are particularly pleased that the Council listened to industry advice and is using a collaborative procurement/delivery model for this project," Mr Davies added. "There are many risks involved with constructing a major infrastructure project in the heart of a city, and collaborative contracts enable a partnership-based approach to the management of those risks, resulting in improved project outcomes."



"The use of collaborative contracts is also proven to reduce project costs, improve value and provide a platform for investment in people and productivity-enhancing tools and processes."

"Today's announcement will provide certainty regarding the project, which will see considerable investment made in employment, training and materials across the sector which will directly assist in kick-

starting Brisbane's economy post-COVID-19," Mr Davies said.

"Brisbane Metro is a critical project for Brisbane and will play a vital role in the city's future transport infrastructure, further enhancing the liveability and connectivity of our city. Today is a significant milestone for the project, and we look forward to seeing Brisbane Metro take shape over the coming years with services commencing in 2023," he concluded.

## John Holland partners with Jacobs to improve Sydney rail network

Leading Australian private rail group John Holland has joined with Jacobs to partner with Transport for NSW to deliver state-of-the-art improvements for NSW train customers. The partnership, known as Next Rail, has been awarded a major contract by the NSW Government, to deliver vital rail upgrades across Sydney.

The project worth close to \$260 million will create approximately 450 jobs over the course of the project and improve customer journeys across NSW.

The contract will help provide a major improvement in services by removing bottlenecks and delivering essential infrastructure upgrades between Central and

Hurstville on the T4 Illawarra, T8 Airport and South Coast lines including:

- Reconfiguration of track at Sydney Terminal and extensions to platforms 9 and 10
- Upgrades to Erskineville and Hurstville Crossovers
- Signalling, overhead wiring, traction power and substation upgrades in the Airport tunnel
- Other network power upgrades

John Holland Executive General Manager Rail, Steve Butcher, said the contract was a recognition of the company's strong track record.

"We have a proud history of working with

the NSW Government to deliver world-class rail projects across the state," Mr Butcher said.

"Whether it's Sydney Metro or the Country Regional Network, John Holland delivers customer focused projects that improve the lives of NSW communities."

"We're thrilled to partner with Jacobs on this project, which will deliver hundreds of new jobs and get people home to their loved ones earlier every day," Mr Butcher added.

Jacobs People & Places Solutions Senior Vice President Operations, Patrick Hill, said the project would improve the travel experience for rail travellers.

"We're pleased to be working with the NSW Government and John Holland to help modernise the rail network, supporting the rollout of new train technologies and transforming the travel experience of train customers for the better."

The contract is part of the NSW Government's *More Trains, More Services* program.

Construction will begin in the middle of this year and be completed in advance of the service improvements, which are planned for late 2022.





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## Driverless electric vehicle to be powered with solar rooftop

An Australian startup is developing an innovative autonomous electric vehicle (EV) that will utilise a solar PV roof and lithium ion battery system.

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) recently announced \$2 million in funding to Applied Electric Vehicles Pty Ltd (AEV) to complete the next stage of its EV commercialisation.

An early stage prototype of AEV's Modular Vehicle System (MVS), a driverless EV platform has already been showcased at world-leading future tech convention CES 19 in Las Vegas last year. Now the Melbourne-based robotics business is taking their solar powered driverless EV to the next stage of development. As part of this project, AEV will complete a pre-production prototype demonstrating AEV technology and ready to progress to the final stages of design and testing.

AEV's vehicle will generate up to 60 per cent of its energy requirements from the sun, depending on the application. The use of a smaller battery pack will also mean the battery can also be charged by a common 240V wall socket, not requiring special charging infrastructure.

The \$7.65 million project is being delivered in partnership with Japanese company Teijin Limited who is helping to develop the vehicle's lightweight materials and manufacturing methods.

AEV's MVS vehicles are designed for short trips at low speed. The versatile base platform could be used for a range of applications in delivery, agriculture, industrial applications, waste management as well as passenger transport. AEV's vehicles combine a lightweight design together with its solar roof and high efficiency driveline.

ARENA's funding will go towards solving energy related challenges such as selection of the most appropriate solar PV technology for the solar roof, and optimising the mass, energy efficiency, solar gain and safety of the vehicle.

ARENA CEO Darren Miller said this is a great example of Australian innovation utilising renewable energy options in vehicles.

"EVs are expected to play an important role in the coming decade in reducing the carbon footprint of transport. We hope to see AEV commercialise a homegrown driverless electric vehicle and be among the first to unlock the global driverless EV market."

"There is significant opportunity in the low speed vehicle market which is expected to gain considerable traction in cities, campuses and factories over the next decade that AEV could tap into," Mr Miller said.

"AEV's project could also unlock new applications for solar such as integrating it into curved surfaces and demonstrating that solar PV can directly power high-efficiency electric vehicles," he added.

AEV's CEO, Julian Broadbent - previously Director of Global Advanced Portfolio Planning at General Motors in the United States - said he was excited to bring this technology to market.

"Our project with ARENA is focusing on passenger vehicles but the learnings will be applied to other vehicles, helping to reduce the charging infrastructure burden as EVs roll out globally."

"The Modular Vehicle System will offer companies access to transport that is cost effective, pedestrian friendly, gentle on the environment and very customisable to their business needs," he said.

"We appreciate ARENA's support for AEV, providing both funding and valuable expertise along the way. With ARENA's assistance, we'll be able to take our design to the next stage of development in utilising renewables for our autonomous electric vehicle and provide something potentially game changing in the low speed EV market."

## SA cracking down on corrupt driving instructors

The South Australian State Government is cracking down on corrupt driving instructors and is developing a suite of reforms to strengthen and improve behaviour and standards within the industry.

Driving instructors play a crucial role teaching teenagers and new drivers and equipping them with the driving and road safety skills to keep them and others safe on our roads.

A State Government survey has shown there is strong community and industry support to reform the sector to stamp out inappropriate and corrupt behaviour in the industry, with;

- 85 per cent of industry participants were aware or very aware of corruption in the industry;
- 73 per cent of industry participants felt a review was long overdue;
- 65 per cent of industry participants believe that the CBT&A (rather than VORT) is the most
- consistent method for safer drivers; and,
- 28 per cent of community participants did not feel confident with all of their driving skills after gaining their full driver's licence.

"The results of the survey are actually quite alarming with the vast majority of driving instructors surveyed being aware of corruption within the industry," said South Australian Minister for Transport, Infrastructure and Local Government Stephan Knoll.

"We have had reports of driving instructors accepting bribes, misrepresenting their accreditation, engaging in inappropriate behaviour with minors or engaging in other business - some of these have led to convictions."

"If novice drivers aren't being trained to an acceptable level this not only jeopardises the safety of the new driver themselves, but also everyone else on our roads," the Minister said.

"Driving instructors have a huge responsibility to equip teenagers and new drivers with the road safety and driving skills that could one day help save their life on the road and keep others safe too. That's why we will work with industry to develop a suite of reforms to stamp out corruption and inappropriate behaviour."

"Over the last four years people under the age of 30 have tragically accounted for 30 lives lost on our roads each year on average," the Minister added.



"Our reforms will help ensure teenagers and new drivers are getting the best possible driving and road safety education so when they get their full licence they are as safe as possible on our roads."

"We will now undertake further consultation with industry on the full suite of our reforms and progress many measures industry have already shown support for. These include regular tougher entry requirements, tougher sanctions for poor performance, increased penalties for breaches for unacceptable behaviour and greater transparency of auditing," he said.

Examples of corrupt and inappropriate behaviour include:

- the issue of licences to applicants who have not demonstrated competency;
- accepting bribes; engaging in other business activities whilst training or assessing applicants for a licence;
- engaging in inappropriate behaviour with minors;
- engaging in other deceptive behaviour such as misrepresenting their accreditation;
- omitting mandatory components of a driving test or refusal to issue receipts for monies paid
- by a client; and,
- training applicants for a licence on testing routes.

The survey revealed that the solutions industry are most receptive to, which will be considered as part of a suite of reforms, are as follows:

- Provide regular training in road rules and safe driving practices to the driver training industry;
- Implement tougher sanctions on poor performing industry members;
- Publication of DPTI's auditing framework;
- More engagement with DPTI;
- Require a Working with Children Check for all industry members;
- Implement tougher entry requirements into the industry;
- Introduce greater accountability for all industry members;
- Introduce penalties for breaches of acceptable behaviour and standards e.g. warnings, expiations and prosecutions;
- Each industry member to be responsible to maintain and improve their own skills and knowledge;
- Greater accountability of MDI's generally e.g. regular audits and hold appropriate insurances;
- Requirement to keep records of clients (e.g. when lessons or tests were undertaken); and,
- Implement an online register of MDI's, AE's and RTO's to enable the community to make an informed decision as to which provider best suits their needs.



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## Beam E-Scooters roll into Bunbury

### First e-scooter trial in Western Australia

Beam Mobility recently launched its e-scooter service in Bunbury with Deputy Mayor Jaysen De San Miguel taking the city's first official ride along Koombana Foreshore as part of Western Australia's first e-scooter trial.

The trial was confirmed by the city council earlier this year as a way to encourage a more convenient, affordable and environmentally friendly way for residents and visitors to move around the city's several attractions and destinations.

Locals have embraced the new shared e-scooter service since its soft launch during March, with hundreds of rides occurring every day on an initial fleet of 90 e-scooters.

"The Beam e-scooters have provided a real buzz around Bunbury and both residents and visitors have been taking advantage of a new way to get around our great City," Mayor Gary Brennan said.

"On behalf of the community, I commend Beam on identifying Bunbury as the first location in WA for a trial and I look forward to seeing the results."

The duration of the trial period is six months and there are over 60 designated

parking spots across the city. Locals are encouraged to suggest additional parking spots via the company's social media channels.

Beam also announced several partnerships with local organisations, including the Dolphin Discovery Centre and Hello Summer Beach Kiosk.

Beam Bunbury City Manager Belle Lim said that partnerships are primarily focused on adding value to the local community.

"As a company, we are committed to working closely with a range of organisations that share our values of sustainability, convenience and community service."

In addition to special ride offers for visitors and a dedicated parking spot, Beam will provide Dolphin Discovery Centre with a financial incentive to charge its e-scooters on a daily basis, of which the organisation will re-invest into its Sustainability Fund that helps to conserve the environment and rehabilitate endangered turtles.

Dolphin Discovery Centre CEO David Kerr remarked, "Beam e-scooters provide a reminder that we need to identify sustainable and efficient systems to support inner-city living and provide transport alternatives for visitors that allow them to fully experience our natural environment."

"We are thrilled to partner with Beam, a like-minded organisation that genuinely cares about and takes decisive action to support Bunbury's local environment, sustainability and conservation efforts."

### COMMITTED TO RIDER SAFETY

The company's clear and demonstrated commitment to rider safety is evident across all aspects of its operations. Its third-generation Saturn e-scooter is custom-built for sharing and is the safest and most vigorously tested shared scooter on the ground in Australia.

"The Beam Saturn has undergone hundreds of thousands of hours of testing to ensure that it can stand up to the rigours of the sharing environment. It has an innovative dual-braking system, an aircraft-grade aluminium frame and 10-inch high endurance safety tyres all designed with rider safety in mind," Ms Lim concluded.

As well as providing free courtesy helmets with every scooter, the company also leads the industry in rider-protection by providing a comprehensive accident insurance policy for its riders.

Beam has also launched a Safety Series program on its Instagram and Facebook channels to help educate riders on safe riding practices.

Beam's Belle Lim (Centre) with Mayor Gary Brennan (Left) and Deputy Mayor Jaysen de San Miguel (Right) with three of Bunbury's new Beam scooters.





# Truck Mounted Attenuators

## LTMA and Blade TMA

### LTMA

The **Light Truck Mounted Attenuator** is the only TL2 in Australia and is designed for impact protection of up to 70km/hr. It's smaller size improves traffic flow and reduces road wear and tear, making it ideal for city and metropolitan projects. The LTMA is easy to operate and customisable, with a variety of extras to meet your specific traffic management needs.

### Blade TMA

The **MASH Approved Blade Truck Mounted Attenuator** is a patented crash cushion designed to safely disperse crash energy of vehicles travelling at speeds up to 100km/hr.

G-Force Reduction Technology, Rear Under Ride Protection and the CAN-Bus Control System are all innovative features that make the Blade TMA exceptional at protecting vulnerable drivers and workers on Australian roads.

**All INNOV8 Equipment TMA Trucks are tested and accredited to exceed Australian Standards and NHVR requirements, ensuring compliance and unparalleled safety for Road Maintenance, Line Marking, Civil Infrastructure and Construction Workers.**



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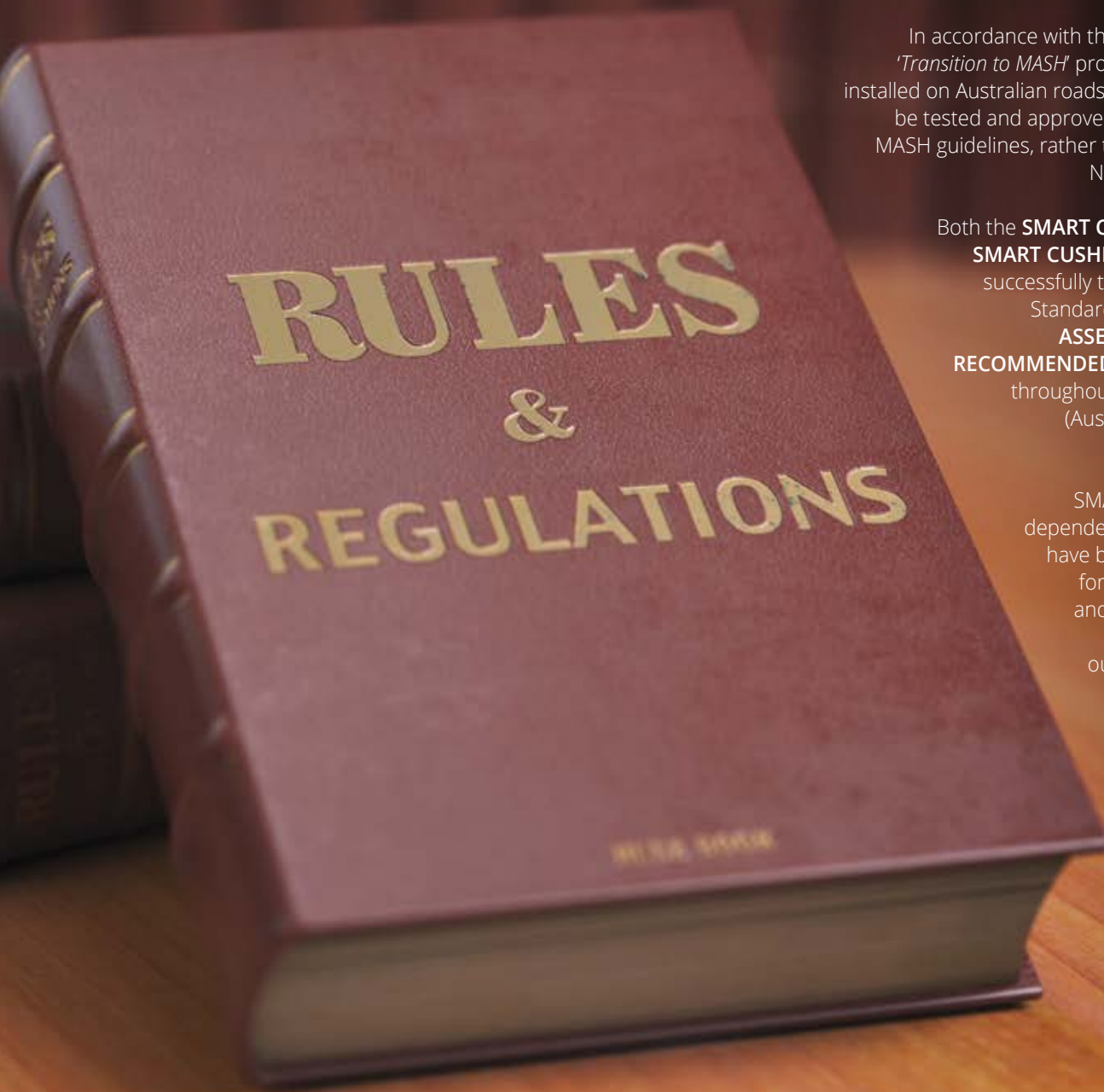
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# CRASHWORTHINESS RULES HAVE CHANGED...

## DO YOUR CRASH CUSHIONS COMPLY?

The new rules requiring MASH tested & approved crash cushions came into effect across Australia on January 1st, 2020



In accordance with the Austroads / ASBAP 'Transition to MASH' process, crash cushions installed on Australian roads are now required to be tested and approved under the AASHTO MASH guidelines, rather than the superseded NCHRP350 guidelines.

Both the **SMART CUSHION SC100** and **SMART CUSHION SC70** have been successfully tested to MASH-2016 Standards, with both models **ASSESSED, APPROVED & RECOMMENDED FOR ACCEPTANCE** throughout Australia by ASBAP (Austroads Safety Barrier Assessment Panel).

SMART CUSHION speed dependent crash attenuators have been used in the USA for almost two decades and in Australia for over 5 years – delivering outstanding life-saving performance and significant savings on repair costs in many thousands of impacts.

# SMART CUSHION

**Speed Dependent Crash Attenuators**



# SMART CUSHION

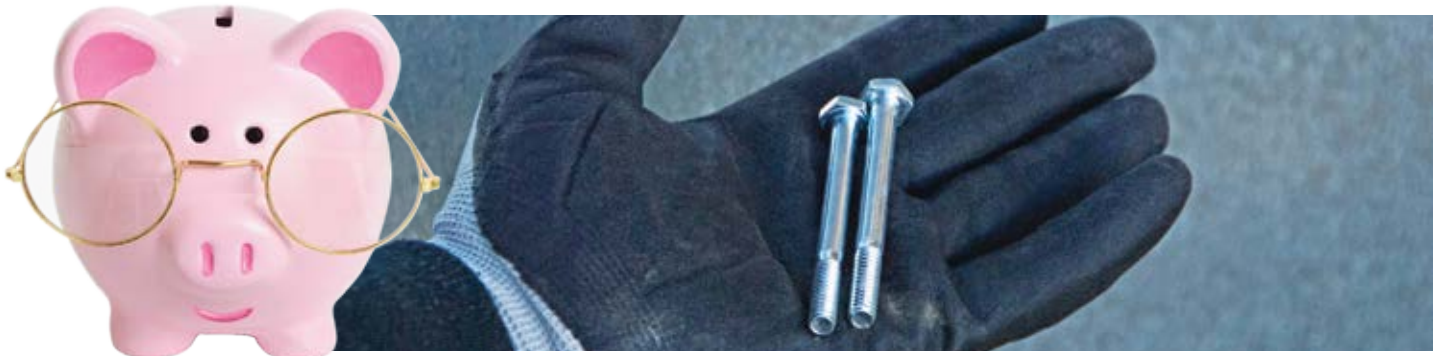
## Speed Dependent Crash Attenuators

### MASH TESTED & APPROVED



#### SAVE TIME...

For most impacts up to 100km/h (by vehicles up to 2,270kg) the SMART CUSHION can usually be repaired and reinstated into service in under 60 minutes.



#### SAVE MONEY...

In 90% of all impacts in Australia, the only spare structural parts needed for repairs are 2 shear pins (COST <\$5). After 59 impacts in Australia, the average cost for each reset was \$169.



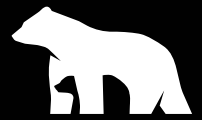
#### SAVE LIVES...

After more than 20 years of successful service internationally and over 5 years successful service in Australia, SMART CUSHION has been directly credited with saving numerous lives and significantly reducing the severity of injuries in literally thousands of impacts.



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# LIGHT 'EM UP...

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AND DELINEATORS**



**P**oor visibility at night - especially during inclement weather - has a major negative impact on road safety. This is particularly true in rural and regional areas, or along outer-suburban streets and roads, where street lighting may be sparse or non-existent.

Put simply, even the best quality line marking or signage can be rendered 'barely visible' in low light, foggy or wet conditions. Add to that, the challenge of reduced surface friction during wet or icy conditions and it's easy to see why a disproportionately high number of road accidents occur at night or during poor weather.

With that in mind, three Australian companies - each of which are leaders in their respective fields of photoluminescent materials technology; smart LED signage & display systems; and specialist surfacing for highway and construction applications - were combined in 2019 to form a new

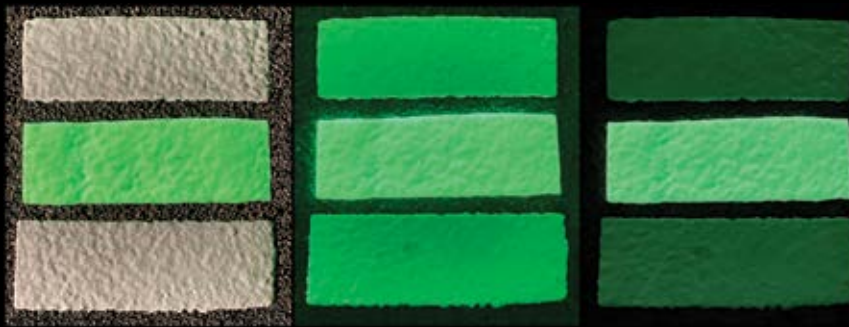
company to provide cutting-edge safety solutions for the transport and construction sectors across Australia and beyond.

The new company, SmarterLite, combines a wealth of experience and expertise under one banner, bringing together the teams from:

- OmniGrip Direct - a company with more than 22-years experience in the development and application of specialist road safety surfacing and decorative safety surfacing;
- Safety Path - a company with over 18 years experience in the development and commercialisation of specialist photoluminescent materials and technologies for the building sector; and
- Vivacity - a company with more than 15 years experience developing high-efficiency LED lighting technology for the retail, building and transport sectors.



**BELOW:** SmarterLite's high-performance PL linemarking and pavement paint delivers outstanding visibility in all ambient light conditions.



**“ENSURING THAT THESE MARKINGS, SIGNS AND DELINEATORS ARE CLEARLY VISIBLE BY ALL ROAD USERS IN ALL WEATHER CONDITIONS, IS A CRITICAL FACTOR IN HELPING TO REDUCE ACCIDENTS AND INCIDENTS ACROSS THE ROAD NETWORK.”**

As part of the SmarterLite group, these three well-established, respected and successful brands have been united to provide 'one-stop-shop' for councils, road authorities, private contractors, construction companies and safety specialists alike - delivering innovative, environmentally sustainable safety solutions for roads, infrastructure and the built environment.

From their specialist range of integrally-coloured and high friction road surfacing products, high-performance photoluminescent line marking paints, and photoluminescent traffic and street signs, through to their state-of-the-art LED Tactile Ground Surface Indicators (TGSI), LED delineators and signs, and combination LED/ photoluminescent signs, SmarterLite has a high-visibility safety solution to suit any road, pedestrian or cycle traffic management application.

“With ever-increasing demand being placed on our road network - not only in terms of increased passenger and heavy vehicle numbers, but also in terms of a much broader vehicle mix with more bicycles, more on-road public transport options and increased pedestrian numbers - improving the quality and visibility of linemarking, lane delineation, surfaces, and road signage is more important than ever,” said SmarterLite Chairman, Gus Carfi.

“Road markings, delineators and signage not only play an important role in managing traffic flows, they also help to separate the vehicle hierarchy, through the use of bus lanes, transit lanes, bike lanes and the like. Ensuring that these markings, signs and delineators are clearly visible by all road users in all weather conditions, is a critical factor in helping to reduce accidents and incidents across the road network.”

“Bringing the three companies together under SmarterLite banner not only enables us to provide a fully-integrated suite of high-visibility products, it has also allowed us to pool our R&D resources to develop new safety products and solutions for both the road infrastructure and building and construction sectors,” Gus Carfi added.

Importantly, despite that fact that the three companies have now joined forces as divisions of SmarterLite, each of the original product groups will continue to be marketed and sold under their original brand names. Darren Scerri, Chief Executive Officer – Infrastructure, explained:

“The core principle behind the three companies joining together as Divisions of SmarterLite was to combine our resources and expertise so we could innovate and 'grow together'.”

## NEXT GENERATION PL ROADSIGNS

Calling on its expertise with specialist Photoluminescent materials, SmarterLite's Safety Path Division has also developed a range of high-visibility PL road signs. Mr Zoran Ovuka, SmarterLite's Chief Technology Officer, said: “We've used a combination of industry standard reflective sign materials with our proprietary high-performance PL coating to develop road and street signs that deliver outstanding retroreflectivity and photoluminescence.”

“This uniqueness means they are clearly visible to all road users (including pedestrians) in all ambient light conditions – even when there is no street lighting or other nearby artificial light source,” Mr Ovuka added.



“There are advantages in utilising the synergies of combined R&D capabilities, as well as each company's great client relationships and their individual reputation as experts in their fields.”

“Our existing customers can now have confidence that they'll get a bigger range of high quality innovative products, delivered with the same high levels of performance and reliability which they've come to expect,” he added.



## SAFETY PATH

A Division of SmarterLite

### TAKING 'HI-VIS' TO THE NEXT LEVEL

The result of years of research led by pre-eminent photoluminescent technologist Zoran Ovuka, one of the company's most exciting new safety developments comes in the form of a high-visibility photoluminescent (PL) linemarking and pavement paint. Specifically developed to withstand even the harshest on-road conditions, high traffic loads and all weather conditions, the new photoluminescent paint quite literally takes 'hi-vis' to the next level. In fact, when it comes to visibility at night or in poor ambient light conditions (especially in areas where there is no street lighting or other nearby artificial light source) the new SmarterLite PL pavement paint provides an extremely clear, highly visible pavement marking.

Together with standard line marking applications on roads, car parks, bike paths and footpaths, the new PL paint is ideally suited for use on kerbs and nosings along traffic islands, roundabouts, tram stops, pedestrian crossings, pedestrian refuge islands and other kerb extension treatments.

The key to the success of the new PL paint lies within its extraordinary light absorption and emission capabilities.

Whereas in the past, many photoluminescent materials generally required a significant level of exposure to a light source (either sunlight or artificial light) but weren't very bright when they emitted their stored light, the new SmarterLite PL paint has significantly better absorption and luminescence. That's because Safety Path's photoluminescent materials were developed for the highly regulated Australian and New Zealand building sector, where it is used in building exit signs. The performance requirements for PL Exit Signs in the Building Code of Australia are much higher than those of Europe and USA.

"PL Paint is an option for road managers where night-time or low visibility crashes are a risk" said Darren Scerri. "Street lighting is extremely expensive and impractical to provide on many country roads. PL paint provides additional guidance, particularly through the evenings. It can also be used in poorly lit car parks, or multi-storey car parks where there's a risk of a power-failure leaving drivers and pedestrians in darkness."

When exposed to standard daylight conditions, the SmarterLite PL will remain visible well into the night without any further exposure to artificial light sources. What's more, thanks to the paint's remarkable absorption qualities, exposure to even the low-beam headlights from a passing passenger vehicle is enough to boost its performance.

## VIVACITY

A Division of SmarterLite

### LIGHTING THE WAY

Building on its reputation as a leader in the field of high-performance LED lighting and signage technology, SmarterLite's Vivacity Division has developed an extensive range of heavy-duty delineators and pavement markers for roads, footpaths and cycleways, as well as marker lights for bollards, barriers and safety fences, and a new lightweight solar light for bus and tram stops and park lighting.

From standard reflective raised pavement markers, through to combination units with solar and/or battery powered LED lights, SmarterLite has products to suit installations ranging from footpaths, bike paths, suburban streets and rural roads, through to highways motorways and airport taxiways and runways – all of which can be expertly installed by crews from the company's OmniGrip Direct Division and its authorised supplier network.

One of SmarterLite's latest product offerings, is a combination raised pavement marker incorporating reflective, solar-powered LED and photoluminescent materials technology. Designed for road and highway use in all traffic conditions, the new combination units offer outstanding visibility in all weather and ambient light conditions.



**"THE LED TACTILES HAVE BEEN EXTREMELY WELL RECEIVED BY THE GENERAL PUBLIC. OUR RESEARCH FOUND THE GREATER MAJORITY OF PEDESTRIANS SAID THEY FELT SAFER AT THE INTERSECTION WHERE THE IN-GROUND LED SAFETY TACTILES REPLACED THE STANDARD TACTILE GROUND SURFACE INDICATORS (TGSIs)."**

### SOLAR SAFETY LIGHT

The Vivacity Safety Light is a new solar light designed to be fitted to existing bus stop and tram stop poles. Being a light weight solar light, it can be installed on smaller diameter poles, reducing the need for large footings. The light incorporates a high-performing battery and motion sensor, with settings customised for each installation. Fitted to bus stops, it can ensure that passengers don't wait in the dark to catch a bus in the early morning, or arrive to a dark stop at night. By increasing the visibility of waiting passengers, it also reduces the likelihood that drivers will brake hard to stop which could result in passengers falling and being injured.

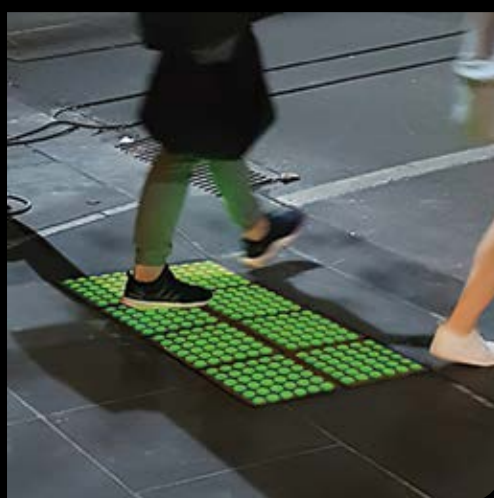
### HIGH-TECH PEDESTRIAN SAFETY

SmarterLite's Vivacity Division is also at the forefront pedestrian safety, thanks to their state-of-the-art LED Safety Tactiles.

Specifically designed to maximise safety for pedestrians at signalised intersections and crossings, Vivacity LED Safety Tactiles are a Tactile Ground Surface Indicator (TGSi) that incorporates LED lights. The colour of the in-ground LED's changes to match the red/green phases of the pedestrian signals, or they can be a steady or flashing colour such as yellow.

While the LED Safety Tactiles are an extremely effective method of highlighting the current status of the pedestrian crossing signals (even for pedestrians with low vision), they have also proven to be particularly effective when it comes to addressing the problem of 'distracted crossing' by people looking down at the phones or screens while walking.





- Positioned 'near side' to the pedestrian so it is much easier to see.
- Conforms to the standard design requirements of a Tactile Ground Surface Indicator.
- Councils and road authorities can specify the background colour so as to achieve the 30% contrast requirement of accessibility guidelines and standards. This is specific to each site to achieve contrast to the surrounding footpath.

"LED Safety Tactiles are a human-centred design response to people at intersections. They bring the important visual cue to the pedestrian's side of the road, instead of a small lantern on a post located across the road which has to be seen through passing vehicles," said Gary Commene.

"The existing standard layout of traffic signals has pedestrians as an inconvenient after-thought. Vivacity LED Safety Tactiles fix that."

As with all SmarterLite products, OmniGrip Direct is the accredited installer of Vivacity LED Safety Tactiles in Australia.

For further information, please visit: [www.smarterlite.com](http://www.smarterlite.com)

**Right:** Artist's impression of a Vivacity Solar Safety Light on a bus stop.



Indeed, the latest installation of Vivacity LED Tactiles at the corner of Swanston Street and Little Collins Street in the heart of Melbourne's CBD is a trial to address just that issue.

With funding assistance from Victoria's Transport Accident Commission (TAC) and coordinated by VicRoads in conjunction with the Melbourne City Council, the trial is being conducted in an effort to "...change the behaviour of people who are distracted by mobile phones, by bringing them back to reality with visual cues." (Hafez Alavi, TAC).

An advanced type of in-ground footpath LED, Vivacity LED Safety Tactiles are connected to a nearby traffic light for power and synchronisation with the traffic light's control system. Vivacity LED Safety Tactiles have been customised for Australian conditions. This includes increasing their brightness for daylight operation, and strengthening for static and dynamic wheel loads arising from motorised footpath street-sweeping and cleaning vehicles.

The colour of the tactiles can be customised to match or contrast the

surrounding footpath surface as required by the client for conformance with local regulations and guidelines. The dimensions and design of the Vivacity LED Safety Tactile conform with AS/NZS 1428.4.

Gary Commene of Vivacity explained, "The LED Tactiles have been extremely well received by the general public. Our research found the greater majority of pedestrians said they felt safer at the intersection where the in-ground LED Safety Tactiles replaced the standard Tactile Ground Surface Indicators (TGSI)."

While traditional TGSI provide a visual and tactile cue to the presence of a hazard, for people with a sight impairment, the Vivacity LED Safety Tactiles provide a benefit to all pedestrians by being significantly more visible than the small red/green 'man' pedestrian light positioned across the road.

Major benefits of the LED Safety Tactile include:

- Significantly larger and brighter than traditional pedestrian lanterns on traffic signals.

# GET A GRIP...

## OMNIGRIP HIGH-PERFORMANCE SURFACE COATINGS & MARKINGS

**A**s well as remaining the brand for SmarterLite's range of high-performance road safety surface treatments, including:

- **OmniGrip CST** - skid-resistant recycled glass coloured surface treatment;
- **OmniGrip HF** - high friction surface treatment;
- **OmniGrip Rubber Coat** – coloured, rubberised finish for footpaths, bike paths and pedestrian areas; and
- **OmniGrip Deco** – slip resistant recycled coloured glass surfaces for paths, streetscaping and placemaking;

OmniGrip Direct and its authorised supplier network are also the accredited installers of the group's products across Australia.

With over 22 years of experience in developing and applying road safety surface treatments for State Road Agencies, Local Councils and the Private Sector across Australia, OmniGrip Direct has developed an enviable reputation for the quality, performance and longevity of its products.

"From the outset, our focus has always been firmly set on the development of products which are environmentally friendly, durable, reliable and deliver genuine safety benefits for all road users – including motorcyclists, cyclists and pedestrians," Darren Scerri said.

"We invest heavily in recycled material, namely rubber and glass, which is independently tested to ensure that our products exceed the minimum levels of skid resistance, longevity and aesthetics, irrespective of the varying types of vehicular traffic."

"We manufacture our own material and install our own Systems – this enables us to control the quality of every job from start to finish," he said.

"Most importantly, we do not spray, nor do we paint ANY road surface," Darren added. "Each of our specialist surfacing systems, utilises a high-performance epoxy binder, matched with a range of purpose-designed aggregates – including integrally-coloured recycled glass, mineral aggregates and stabilised recycled rubber – to produce a wide variety of coloured, high-friction, safety and/or aesthetic finishes."

"Needless to say, after more than 22 years of ongoing R&D, and with literally thousands of successful projects, we're extremely proud of the reputation that our surface treatment systems have gained throughout Australia," he said.

"In fact, our Epoxy Binder is recognised as being one of the best in the world, thanks to its outstanding longevity and performance in the field – even in the harshest conditions – and the fact that it can be applied to any substrate, including Concrete, Asphalt and Bitumen," Darren Scerri added.



### OMNIGRIP CST

#### Durable, skid-resistant recycled-glass coloured surface treatment

OmniGrip CST is a durable, skid-resistant coloured surface treatment system comprised of thermosetting cross-linking resin compound incorporating specialist coloured recycled glass aggregates which have been specifically formulated for application to roads, highways and bridge surfaces.

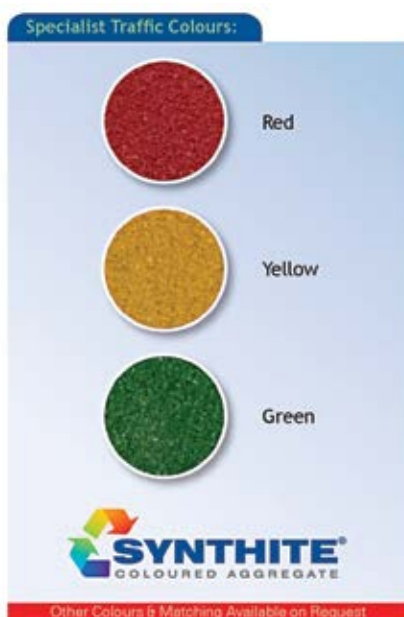
Designed to provide a high definition coloured pavement, OmniGrip CST ensures visibly safer colour delineation whilst maintaining high skid resistance in both wet and dry conditions.



OmniGrip CST is widely used across Australia for green bicycle lanes, red bus lanes and yellow pedestrian crossings, where safety is important and vulnerable road users like riders and pedestrians benefit from the durability of its colour and skid-resistance.

In buildings and landscaping, OmniGrip CST provides a durable and slip resistant coloured surfacing for footpaths, cycle ways and pedestrian areas.





Available in both modified epoxy or polyurethane formulated options, OmniGrip CST is specifically designed to provide a unique combination of depth of colour and skid resistance.

In keeping with the company's commitment to the ISO 14001 Environmental Standard, the OmniGrip CST surfacing system utilises a unique Synthite® recycled glass aggregate, which is comprised of 75% recycled content. In addition, the resin binding system is free of solvents and contains only minimal Volatile Organic Content (VOC).

OmniGrip CST's unique formulation provides outstanding longevity and depth of colour even under the harshest conditions, balancing continued colour retention and skid resistance for the design life of the product.

#### FEATURES & BENEFITS:

- Proven Road Safety Technology
- Excellent Friction Properties – Slip Resistance Value (SRV) > 55
- Visibly Safer Cycle & Bus Routes
- Whole of Life Colour Retention
- Improved Traffic Delineation
- Highly Durable
- Suitable for Asphalt, Concrete & Steel Surfaces
- Uniform Seamless Finish
- Fuel, Oil & De-Icing Salt Resistant
- Guaranteed Product Performance
- Environmentally Friendly

#### BICYCLE LANES AND PATHS

OmniGrip CST is a proven coloured surface treatment for bicycle lanes, particularly through conflict zones where the paths of motor vehicles cross bicycle lanes. OmniGrip CST's texture and colour are typically more durable than that of paint-based products - with an expected life of 5-8 years (depending on traffic) – while at the same time, offering the added benefit of remaining non-slip in wet conditions. OmniGrip CST exceeds the performance requirements of VicRoads Specification 431.

#### MOTORCYCLING ROUTES

OmniGrip CST can also be used to replace white and coloured pavement markings, including rumble bars, perceptual linemarking and lane arrows. With higher skid-resistance than standard pavement markings, OmniGrip CST is ideal for use along popular motorcycling routes where riders are vulnerable to a loss of friction between the tyre and road surface, particularly in wet conditions. OmniGrip CST can also be used in conjunction with OmniGrip HF, the company's High Friction Surface Treatment.



#### OMNIGRIP HF

##### High friction surface treatment to decrease braking distances

OmniGrip HF is a high friction surface treatment (HFST) which is a thin overlay applied to asphalt or concrete roads and highways to improve surface friction - resulting in decreased braking distances and threshold impact speeds in emergency situations.

Available in both modified epoxy or polyurethane formulated options, OmniGrip HF is specifically designed to provide a durable, deep textured and highly skid resistant finish for the design life of the product.

Comprised of a thermosetting cross linking modified compound which exhibits elastomeric properties, the OmniGrip HF system is engineered to hold a high PSV aggregate, such as calcined bauxite, permanently in position so that it doesn't become embedded or displaced – even under the heaviest of braking.

Once cured, OmniGrip HF is resistant to all road contaminants including oil, petrol and de-icing salts with excellent adhesion to both asphalt and concrete surfaces. OmniGrip HF can also be used in conjunction with the OmniGrip CST system to provide an integrally-coloured high friction surface treatment.

#### ROAD SAFETY BENEFITS

- Whole of Life Skid Resistance
- Sideways Co-efficient of Friction Levels > 0.85
- Increased Surface Texture
- Up to 33% Reduction in Vehicle Braking Distances
- Reduced Threshold Braking Speeds
- Crash Reduction Factor (CRF) > 40%
- Proven 12 years plus design life







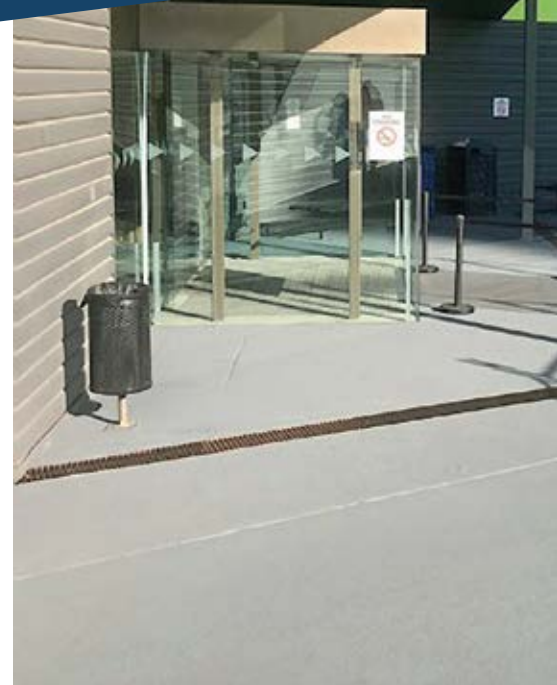
OmniGrip HF High Friction Surface Treatment delivers outstanding road safety benefits, and is a proven road safety solution, both internationally and in numerous installations across Australia. The Crash Reduction Factor for OmniGrip HF ranges from 40% for all crashes, up to 80% for wet weather crashes. This means when braking suddenly, a vehicle's stopping distance is reduced enabling the driver to either avoid the collision or crash at a reduced speed. This could transform what would have been a serious injury crash into one where people walk away.



***“THE CRASH REDUCTION FACTOR FOR OMNIGRIP HF RANGES FROM 40% FOR ALL CRASHES, UP TO 80% FOR WET WEATHER CRASHES.”***

#### APPLICATIONS

- Approaches to School & Pedestrian Crossings
- Intersections & Roundabouts
- Tight Radius Corners and Slip Lanes
- Steep Inclines / Declines
- Freeway Ramps
- Winding Country Highways and Roads
- Sharp Bends and Corners in Urban Areas
- Black Spot Locations
- Black Lengths



**OMNIGRIP**  
RUBBER COAT

#### OMNIGRIP RUBBER COAT Softer surfacing made from recycled tyres

OmniGrip Rubber Coat is a recycled rubber surfacing system that provides a coloured rubberised finish for footpaths, bike paths and pedestrian areas. It can be used for building entrances, courtyards, aquatic centres, gymnasiums and foyers.

Made from Australian-sourced scrap vehicle tyres, specifying OmniGrip Rubber Coat helps to reduce Australia's waste tyre stockpiles. It can be coloured to achieve subtle or bold architectural finishes to suit a wide array of applications.

#### FEATURES & BENEFITS

- Available in a range of standard colours, including blacks and greys, green, blue, red, maroon, olive, and patterns combining these colours
- other colours and colour matching available on request
- Suitable for indoor and outdoor applications
- Can be applied to concrete, asphalt, bitumen, brick, pavers, metal and most building surfaces
- Softer on bare feet
- Every three square metres of OmniGrip Rubber Coat takes one more tyre from Australia's national stockpile of used-tyres.

OmniGrip Rubber Coat is spray applied. It has a slip resistance classification of P5 when tested in accordance with AS4586:2013, meaning that there's a low chance that it could contribute to the risk of slipping when it is wet. It is suitable for use on ramps as well as wet areas such as loading docks and around swimming pool decks.





## APPLICATIONS

- Pedestrian Areas
- Public Spaces
- Walkways
- Bike Paths
- Foyers and Entrances
- Courtyards
- Play and Exercise Areas (particularly where people are barefoot)
- Public Pool Decks
- Loading Docks
- Ramps and Walkways
- Bicycle Paths



## OMNIGRIP DECO High performance aesthetic surfacing system

Combining class, finish and aesthetics, OmniGrip DECO is a unique, decorative, bonded aggregate surface system, designed to provide a decorative and complimentary surface finish for streetscaping and placemaking.

Available in a diverse range of natural or synthetic colour effects and textures OmniGrip DECO can be used for natural finishes or bold, eye-catching coloured designs, used in placemaking to add vibrancy and identity to a street or park.

OmniGrip DECO's synthetic finishes use Australian-sourced recycled glass that is proven for its durability. The smaller aggregate of OmniGrip DECO is better suited for an off-road walking and bicycle riding environment where the additional texture of OmniGrip CST isn't required. The unique process used to colour the glass maximises its texture and colour retention so that it lasts much longer than paint-based products – reducing the likelihood of slips and falls while maintaining its colour.

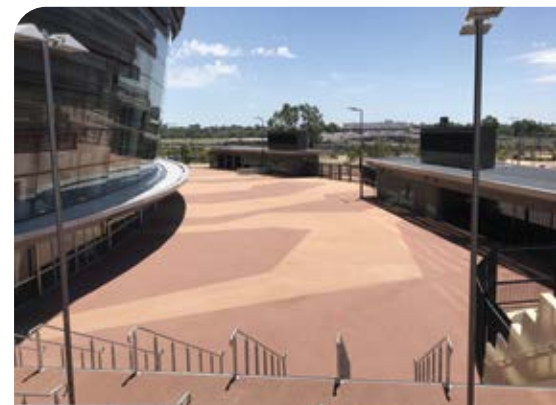
## FEATURES & BENEFITS

- Extensive Choice of Natural or Synthetic Aggregate Hues
- Textured Stone Aggregate for Natural Finishes
- 100% Recycled-Glass Synthetic Aggregate for Coloured Finishes
- Extremely Durable & Hard Wearing
- Adheres to Asphalt, Concrete & Other Hard Surfaces
- Solvent Free

- Less than 5% Volatile Organic Compound (VOC) Content (in line with the specification requirement of the Green Building Council of Australia)

## TYPICAL APPLICATIONS

- Sidewalk & Alfresco Dining Areas
- Streetscape Redevelopments
- Public Parks, Squares and Plazas
- Pedestrian & Shopping Centre Precincts
- Residential Developments
- Shared Pathways, Walkways and Laneways
- Bridge Decks
- Elevated Walkways and Boardwalks
- Driveways
- Heritage Areas
- Car Parks



# Roadmap needed to integrate electric vehicles into Australia's energy market



The Australian Energy Market Commission (AEMC) says Australia needs a forward-thinking plan to get the energy system 'market ready' for an electric vehicle future. In a new issues paper released recently as part of its 2020 retail energy competition review, the Commission says planning ahead for the boost in energy use from electric vehicles will ensure this new technology has a positive impact on the energy market.

"Electric vehicles will boost demand for electricity and could have a big impact on the energy market," said Commission Acting Chief Executive Suzanne Falvi.

"Sales of electric vehicles increased by more than 200% between 2018 and 2019 and we need to lock in lower cost ways to support consumers who want them. If we get ahead of the curve, we can make sure this technology makes a positive contribution to our future power system and doesn't become another cost driver."

"We're starting a conversation with this issues paper to generate ideas and identify what barriers to innovation there might be that could stop new electric vehicle products and services reaching consumers," Ms Falvi added.

The Commission's issues paper gives public charging stations as one example of how electric vehicles can have a large impact on the grid. One charging station built in Adelaide in 2017 with eight chargers was equivalent to the connection of 100 new homes. The paper also says that while electric vehicles have an obvious value as a mode of clean transport, they could also benefit the market by promoting more efficient use of the infrastructure we already have.

"Electric vehicles have potential to put energy power back in the hands of consumers and help keep the system reliable and secure," Ms Falvi said.

"With the right systems in place, households can charge their vehicles when energy is cheap and have the option to sell power back into the grid when it's more expensive. Along with solar PV and smart appliances, electric vehicles can be part of a consumer's future toolkit to reduce their energy output when prices are high."

The AEMC issues paper says digitalisation will see smart and flexible charging systems benefitting consumers without any conscious effort. It also says that if given the right market signals, electric vehicle charging load could provide a significant demand response resource for the system.

In California for example, *Enel X* is aggregating electric vehicle charging loads, providing a 30MW/70MWh resource in energy markets. This 'virtual battery' of more than 6,000 chargers can ramp up and down to meet energy market needs, with customers involved receiving incentives.

Technology developments might also mean greater potential for households to use electric vehicle batteries 'behind the meter' to soak up excess rooftop solar generation and then discharge electricity to their own home or to the grid. But so far, limited uptake of electric vehicles means there aren't many retail products targeting this market.

"Electric vehicles are an opportunity for retailers or new energy providers to innovate with new residential products," Ms Falvi said. "While existing consumer protections must apply to new products and services, we need to make sure that existing rules and regulations don't stifle innovation."

The Commission wants to know what products and services are being developed, both for residential and public charging - for example, in workplaces, shopping centres and car parks. It also wants to know whether retail market competition is resulting in innovation in this space.

In asking stakeholders for feedback, the Commission is considering whether any existing retail regulation is creating barriers to electric vehicle use.

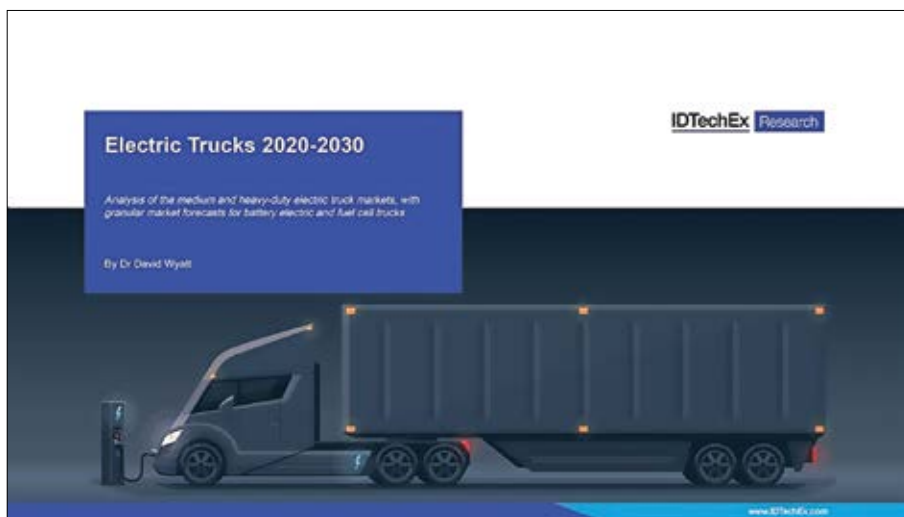
## ELECTRIC VEHICLES: FAST FACTS

- Nearly 8 million sold worldwide to date
- More than 6,700 sold in Australia in 2019
- 22 models currently available and nine more expected in 2020
- 1930 public vehicle charging stations in Australia as of July 2019 – a 140% increase in the year to July 2019
- 70% of vehicle owners are likely to have access to dedicated charging stations at home or work

## ABOUT THE AEMC

The Australian Energy Market Commission (AEMC) is the rule maker, market developer and expert adviser to governments on energy. It protects consumers and achieves the right trade-off between cost, reliability and security.





## ‘Electric trucks 2020-2030’ report from IDTechEx

IDTechEx Technology Analyst Dr David Wyatt has recently published a report update “*Electric Trucks 2020-2030*”, focusing on electrification in the medium and heavy-duty truck markets, providing a comprehensive set of market forecasts.

Along with the rest of the automotive sector, the medium and heavy-duty truck market is evolving. Governments around the world, recognising the potentially catastrophic repercussions of unfettered climate change and witnessing the detrimental impact on human health from vehicle exhaust pollutant emissions in urban environments, are taking decisive action, that will, in the coming decades, drive vehicle manufacturers to zero on-road exhaust emission powertrain solutions. Consequently, many believe that the days of the fossil fuel-powered combustion engine are numbered.

In the face of tightening CO<sub>2</sub> emission legislation for new trucks, that will be difficult to meet in the relatively near future with a fossil fuel combustion engine, and increasing pressure to limit peoples exposure to hazardous air pollutants in city centres, that are in large part the result of on-road transportation, a much cleaner source of power is required for future medium and heavy-duty trucks. This need is compounded by increasing demand for freight delivery as the retail industry grows its online sales platforms and people gradually abandon private car ownership for mobility as a service (MaaS) platforms.

It is already clear that it is impossible for ICE-powered fuel efficiency improvements to deliver the required emission reductions in the long-term. The future is either battery-electric or fuel cell electric vehicles. They

deliver a zero on-road emission solution, that immediately protects people from PM and NOx emissions in urban areas and passes the burden of decarbonisation from vehicle manufacturers on to the generators of electricity.

Diesel and petrol combustion engines are already a technology of the past, prudent companies in the automotive industry are already transitioning themselves toward the electric and fuel cell supply chain. All major truck OEMS are now investing in zero-emission trucks projects for fear of being left behind.

The IDTechEx “*Electric Trucks 2020-2030*” report is intended to help businesses across the automotive value chain plan for the future in this rapidly changing market. The report provides 48 forecast lines for battery electric and fuel cell electric trucks, that include a ten-year outlook for vehicle production, market penetration and market value, with separate forecasts for both the medium and heavy-duty truck markets and regional segmentation for China, North America, Europe and ROW.

An up-to-date overview of the battery and fuel cell electric truck market is provided in the report, with detail about current demonstration projects and efforts by major players in the industry to commercialise zero-emission trucks, across each of the key regions.

The report presents background to technology development in the electric truck market, including fuel cells and electric hybridization, along with a discussion of key enabling technologies for electric truck deployment such as batteries, motors and charging infrastructure.

## Red Energy charges into the EV space

Red Energy announced recently announced that it will offer Electric Vehicle owners electricity every weekend to charge their cars with free usage charges.

In a new product offering to electric vehicle owners, Red will provide electricity between 12 noon and 2pm every Saturday and Sunday with free electricity usage charges. The *Red EV Saver* will also include Red’s renewable matching promise. This provides customers with a guarantee that for every unit of electricity they use, Snowy Hydro will match it by generating one unit from a renewable source.

“We are a business that’s owned and powered by one of Australia’s leaders in renewable energy, Snowy Hydro” said Iain Graham, CEO of Red Energy. “This product is supported by Red’s renewable matching promise. We know renewables are important to electric vehicle owners which is why we think Red’s offer will appeal to these customers”.

Charging an electric vehicle is estimated to add approximately 35% to an average customer’s annual consumption. Red Energy’s offer will minimise the cost of “fuel” for the customer. Customers require a smart meter or an interval meter. Red Energy can assist with the installation of a smart meter if they don’t have one.

Red Energy has three electric vehicles in its company fleet and has plans to install a charging station at its Richmond Contact Centre in Melbourne.

For more information, please visit: [www.redenergy.com.au](http://www.redenergy.com.au)



# ABB and Volvo to electrify Gothenburg's city streets

Starting in 2020, 157 new Volvo electric buses will start operating on the streets of Gothenburg, Mölndal and Partille in Sweden, powered by charging infrastructure solutions from market leading provider, ABB. This landmark announcement represents an important step towards achieving a sustainable public transport solution for the 180 million trips made by bus in the region each year.

In line with the Swedish government's vision that Sweden should be climate neutral by 2050, public transport company Västtrafik expects to have electrified all city traffic in Västra Götaland by 2030.

Volvo Buses and ABB are helping to realize that aim with the supply of 157 new electric buses and supporting charging infrastructure to bus operator Transdev.

With services scheduled to commence in December 2020, the new electrified lines will mean a total of 220 electric buses to transport Gothenburg's residents and visitors by the end of the year.

"Volvo Buses is a leader in electromobility and solutions for sustainable public transport. Together with ABB and our partners, we have created a common holistic transport solution that will make public transport in Gothenburg quieter and emission-free", says Håkan Agnevall, President, Volvo Buses.

"The solution shows that electric buses are not only something for the future, but already today provide cities with public transport that is sustainable and financially viable," Mr Agnevall added.

19 new high-power electric chargers will be installed during the second half of 2020 before the new buses go into operation, and another two stations are planned for the future.

The buses in Gothenburg, Mölndal and Partille will be charged by 450kW high power Panto Down chargers from ABB. A modular solution based on OppCharge, an open interface for direct current (DC) electric bus charging, the solution offers high-power charging via an automated rooftop connection. ABB will supply a complete solution that includes both the

charging stations and all the necessary grid connection hardware via ABB's cable distribution cabinets.

The buses will be recharged in just three to six minutes at charging stations along the routes. The high-power chargers, a part of ABB's innovative ABB Ability™ offering of digital solutions and services across all business areas, delivers web-enabled connectivity that allows network operators to perform remote monitoring and configuration of charge points and also minimises downtime and increases efficiency.

"The sustainable transformation of bus traffic in Gothenburg is an example of how ABB is pursuing its *Mission to Zero*, with the goal to develop innovations that will contribute to a zero-emission future. We have the products and solutions to deliver electricity from generation to the point of consumption in a safe, smart and sustainable way", says Frank Muehlton, Head of ABB's global business for E-mobility Infrastructure Solutions.

With room for 150 passengers and an 88 percent reduction in CO<sub>2</sub> when transitioning to electricity, the new buses combine high passenger capacity with low environmental footprint.

ABB is a world leader in electric vehicle infrastructure, offering the full range of

charging and electrification solutions for electric cars, electric and hybrid buses as well as for ships and railways. ABB entered the EV-charging market back in 2010, and today has sold more than 13,000 ABB DC fast chargers across over 80 countries. ABB recently received the Global E-mobility Leader 2019 award for its role in supporting the international adoption of sustainable transport solutions.

ABB offers products and services that provide a crucial contribution to increased sustainability in industry. More than half of ABB worldwide sales are generated with technology that contributes to the elimination of the causes of climate change. It is the goal of ABB within the scope of *Mission to Zero* to increase the sales share of solutions and systems for increased sustainability to 60 percent by the end of 2020.

## ABOUT ABB

ABB is a technology leader that is driving the digital transformation of industries. With a history of innovation spanning more than 130 years, ABB has four customer-focused, globally leading businesses: Electrification, Industrial Automation, Motion, and Robotics & Discrete Automation, supported by the ABB Ability™ digital platform. ABB's Power Grids business will be divested to Hitachi in 2020. ABB operates in more than 100 countries with about 147,000 employees. For further information, please visit: [www.abb.com](http://www.abb.com)





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So, when it comes to selecting a fully MASH tested, passed and eligible TMA that has also been **ASSESSED, APPROVED & RECOMMENDED FOR ACCEPTANCE** throughout Australia by ASBAP (Austroads Safety Barrier Assessment Panel), the only name you need to remember is **Scorpion II® TMA** from **A1 Roadlines**. When it comes to the brand of host vehicle... that's up to you!



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# INFINITY TESTING

**'Infinity Testing' is without a doubt the harshest method of testing the performance of a Truck Mounted Attenuator (TMA) during an impact.**

## **NO RELIANCE ON ROLL-AHEAD DURING AN IMPACT**

Rather than relying on some of the impact energy being absorbed by the forward movement of host vehicle on which the TMA is fitted, with 'Infinity Testing' the host vehicle is anchored to the ground to prevent any forward movement during an impact.

## **'WORST CASE' SCENARIO TESTING**

Compared to standard testing with an unrestrained host vehicle, Infinity Testing is a much tougher testing regimen. It is considered 'worst-case scenario' testing which makes it much more difficult to meet the pass criteria for IS values, as all of the Ridedown Acceleration must be provided by the TMA absorbing the energy from the impact.

## **TMA ABSORBS & DISSIPATES 100% OF THE IMPACT ENERGY**

Testing the TMA on a host vehicle which is anchored in place, tests – and for both the Scorpion II® TL-3 and Scorpion® II METRO® TL-2 TMAs – confirms the capacity of the TMA to absorb/dissipate 100% of the impact energy – without the benefit of the host vehicle roll-ahead.

## **NO UPPER LIMIT FOR HOST VEHICLES**

From a practical standpoint, the fact that both the Scorpion II® TL-3 and Scorpion® II METRO® TL-2 TMAs were successfully tested to MASH Standards using the 'Infinity Testing' method, means both units are MASH certified with no upper weight limit for the host vehicle.





# THE ULTIMATE TEST OF ATTENUATOR PERFORMANCE

## HOW IT'S DONE

With 'Infinity Testing' the host vehicle is anchored in place during the impacts to assess the TMA's capacity to absorb/dissipate 100% of the impact energy without the benefit of roll-ahead.



## WHAT ABOUT ROLL-AHEAD DISTANCES?

Importantly, to emulate 'real world' operating conditions, both the Scorpion II® TL-3 and Scorpion® II METRO® TL-2 TMA have also been successfully tested and MASH certified using standard 'non-anchored' host vehicles, with both units posting impressively low roll-ahead distances.

### **Scorpion® II TL-3 TMA**

Crash Test: MASH Test 2-53

Impact Angle: 10.3 Degrees

Roll-Ahead Distance: 5.1m

Impacting Vehicle Weight: 2266kg

Impact Speed: 103.8km/h

### **Scorpion® II METRO® TL-2 TMA**

Crash Test: MASH Test 2-53

Impact Angle: 9.9 Degrees

Roll-Ahead Distance: 12.4m

Impacting Vehicle Weight: 2295kg

Impact Speed: 81.6km/h



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The Aussie Hydro-Loop delivers an EPA compliant, silenced, clean and capture system that delivers 4,000 psi pressure at 130 degrees C steam. Finish up with disinfectant and Coronavirus is on the ropes!

## WAR ON CORONA, STEAM POWER WINS

The war on Corona has sharpened the appreciation for the power of steam to kill germs. Local government bodies, food processors, and health services have become very much aware of the power of high pressure steam to kill bacteria!

One Australian company, Australian Pump Industries, is promoting the idea of a “double punch” for cleaning hard surfaces to stop the spread of germs. Aussie Pumps’ portable “clean and capture” high pressure steam cleaner is ideal for this application.

The system, called the *Aussie Hydro-Loop*, not only provides steam up to 130 degrees C, but also delivers it at a pressure of 4,000 psi.

“That’s what we mean by the double punch,” said Aussie Pumps’ Chief Engineer, John Hales.

“First the high pressure carries out the cleaning action with steam, then sanitises the surface at the same time, with minimum use of chemicals,” he said.

The bigger Aussie Hydro-Loop 4,000 psi machine is already widely used to clean cityscapes like plazas and outdoor eating

areas in public spaces. The main drive for the system is water cooled Kubota diesel engines. A top quality ‘big Bertie’ Bertolini triplex high-pressure pump provides the 4,000 psi and 20 litre per minute flow to get the impact of both flow and pressure.

The best news for users is that the machine can carry its own water supply and be self-sufficient during the cleaning process.

“We designed this machine with Councils and government departments in mind,” said Hales. “Contractors use the unit because of its unique loop system that leaves the job completely clean without polluting the environment.”

The clean and capture system consists of a super suction vacuum system that draws up the contaminated water and puts it through a five-stage filtration circuit. The water is then returned to the tank so the operator can re-use the same water.

The advantages are obvious. The EPA rules are not broken by contaminating storm water drains and the operator doesn’t need to find a recharging station to fill the 1,000 litre water tank.

Sanitising public amenities, sports facilities, barbecues, tables and chairs in parks and public spaces is easy with the *Aussie Hydro-Loop*. Using high pressure steam also enables the cleaning of oil stains from car parks, the removal of food stains and waste, and even the elimination of graffiti.

The latest version of the Aussie Hydro-tek loop system comes in a silenced configuration. Called the *Aussie Hydro-Hush Loop*, the machine runs with an operating noise level of 75 dbA at seven metres distance.

“It’s a major innovation and never had more topicality than now during the age of Corona,” said Hales.

The company stresses that to disinfect, hot water or steam alone may not be sufficient. For a more comprehensive attack on the virus, they recommend reducing the bacteria with hot water or steam, before a final high pressure disinfecting process to make sure of the job.

For information and easy steps on Aussie’s war on Corona, visit the Australian Pump Industries website: [www.aussiepumps.com.au](http://www.aussiepumps.com.au)



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# Outstanding Debut

## NEW FAUN VIAJET 6 SWEEPER WINS HIGH PRAISE FOR ITS PERFORMANCE IN THE FIELD

**Following on from its eagerly anticipated arrival in Australia earlier in the year, the new state-of-the-art FAUN VIAJET 6 sweeper has been earning high praise from councils and contractors alike, thanks to its outstanding performance in numerous in-field demo trails.**

While the old adage 'the proof of the pudding is in the eating' can be applied to many situations, when it comes to sweepers, *'the proof of performance is out on the road'* is not only more appropriate, it's absolutely true. Glen Fuller, Sales Manager – Sweepers with Superior Pak, the exclusive distributor of FAUN products throughout Australia & New Zealand, explained:

"When it comes to sweeping equipment, versatility and performance are paramount."

"Even sweeping routes that cover a relatively small geographic area tend to present a range of different sweeping conditions."

"What's more, these conditions can, and often do change from week-to-week, due to things including weather events, traffic loadings, seasonal conditions, or any other number of factors."

"Needless to say, when it comes to choosing a sweeper to meet your needs, you need to be sure that it has the capacity to cope with an array of variables, including different pavement types and terrains, a range of debris types and loadings, wet and dry conditions, etc.," Glen added. "And the best way to do that, is to use the machine, in real-world conditions, on your roads, in your area. It really is the best way to ensure that the unit can cope with your specific sweeping needs."

### OUTSTANDING PERFORMANCE IN A WIDE VARIETY OF CONDITIONS

With that in mind, since the first FAUN VIAJET 6 arrived in Australia in January, Glen and the team from Superior Pak have been busy demonstrating the new unit to numerous councils and contractors across New South Wales – and the response has been extremely positive to say the least.

"We've had a good positive response to the unit across the board, particularly from the operators, which can often be the biggest challenge," Glen Fuller said.

"In fact, we even had one operator - who was initially completely against even trying the FAUN - hop out of the cabin after operating the unit on his regular sweeping route and announce: 'I love it – I want one'. If that's not a vote of confidence in a machine, I don't know what is!" he added.



The in-field trials took in a wide variety of sweeping conditions, from major CBD areas and inner-city streets, through to metropolitan arterials, suburban streets and rural roads – many of which had extremely high leaf and debris loadings. In every instance, the FAUN VIAJET 6 delivered the goods – collecting the debris and fines, leaving a clean, debris-free pavement.

“Together with the comfortable cab, ease of operation and, of course, its outstanding sweeping capabilities, two other things that proved to be extremely popular with all of the operators were the 1,900 litre capacity water tank (which helps to improve productivity by reducing the number of times they had to stop sweeping to refill the tank) and how easy the unit is to empty and clean at the end of a shift,” Glen said.

“They were also all really impressed with how easy and efficient the suction boom is to use for cleaning out gully traps and side-entry pits,” Glen added. “In fact, the unit got excellent feedback from all of the operators who trialled it.”

## SPECIFICALLY DEVELOPED FOR AUSTRALIAN CONDITIONS

Specifically developed to meet the demands of harsh Australian operating conditions, the FAUN VIAJET 6 delivers the ideal combination of features, capacity and manoeuvrability to suit a wide range of applications. From suburban streets and roads, through to major arterials, rural roads and transport hardstand areas, the VIAJET 6's size, features and capacity make it an ideal choice for councils, contractors and road authorities alike.

Mounted on an Isuzu dual control FSR 140 260 4x2 cab chassis, the FAUN VIAJET 6 features a 6m<sup>3</sup> capacity collection hopper with high angle tipping for efficient emptying and easy cleaning. To provide greater stability during emptying, the unit's 1,900 litre high capacity water tank is completely separate from the collection hopper. The location and arrangement of the tanks, auxiliary engine and other components have been specifically designed to lower the centre of gravity and optimise weight distribution, thereby providing maximum stability during sweeping and emptying.

The VIAJET 6 comes standard with a high performance Deutz TCD 2.9l 4-cylinder auxiliary engine, which transfers power to the sweeper and blower units exclusively via hydraulics rather than through mechanical components which can be more susceptible to wear and tear.

## PATENTED AIR CIRCULATION SYSTEM

The key to the VIAJET 6's outstanding sweeping performance lies with its patented air circulation system which delivers the combined benefits of regenerative air sweeping with traditional vacuum sweeping. This system not only delivers outstanding sweeping performance across a wide range of surfaces, it also results in a significant reduction in fine dust emissions from the sweeper.

The FAUN air circulation system continuously transports the extracted air from the debris container to the blowing nozzle behind the suction nozzle. When loaded with new debris, the already moistened and heated air is once again sucked into the suction nozzle and recirculated. The quantity of recirculating air can be variably adjusted between 30 and 70% depending on the application.

Only the relatively small proportion of air which is not recirculated flows out smoothly under the machine. Fine dust emissions from the FAUN road sweeper with the air circulation system are approximately 50% lower than for pure suction road sweepers.

Importantly, this unique design means that the VIAJET 6 does not blow dust around. Clean exhaust air is expelled behind the sweeper units on the portion of the road which is already clean.

Adding water to the blast air also enables the road to be cleaned in the working area of the suction nozzle.

Both the suction and blast tubes are fitted with quick release fittings to enable easy change over and cleaning.

For further information or to enquire about a demo of the new FAUN VIAJET 6, contact Superior Pak on: 1800 013 232 or visit: [www.superiorpak.com.au](http://www.superiorpak.com.au)

**Bottom:** The quantity of recirculating air can be variably adjusted between 30 and 70% depending on the application. Fine dust emissions from the FAUN road sweeper with the air circulation system are approximately 50% lower than for pure suction road sweepers.

**Below:** The FAUN air circulation system recirculates air to the blowing nozzle behind the suction nozzle. When loaded with new debris, the already moistened and heated air is once again sucked into the suction nozzle and recirculated.



# ITS AUSTRALIA STATEMENT ON ECONOMIC RECOVERY IN AUSTRALIA

The 2019 *Australian Infrastructure Audit* found that the cost of road congestion and public transport crowding in Australia could increase from \$19 billion in 2016 to \$39.6 billion in 2031 without continued infrastructure investment. Although its root causes vary, it is a widespread problem across multiple corridors in Australian cities.

Throughout the COVID-19 pandemic we are seeing reverse impacts with our road and public transport networks operating at approximately 80% of previous capacity. This is due to the current government restrictions; however, it is unclear about the potential mid- to long-term impacts as we start to consider the relaxing of business closures and other mitigation strategies.

While the full impacts of the economic slowdown associated with the COVID-19 response will take some time to be quantified, our industry continues to deliver essential services and construction projects and is fully staffed ready to support any stimulus measures.

ITS Australia is extremely supportive of the government's commitment to delivering vital infrastructure projects. Keeping these projects going has made a real difference to industry in its ability to continue to employ a significant part of the workforce, and to support the readiness of our industry to be available to respond to new projects.

## INDUSTRY IMPACTS

A member survey conducted by ITS Australia on COVID-19 related industry impacts reveals that more than 60% of respondents had experienced negative financial impacts and reduced operational levels ranging from 50 – 100%, with an average of 83%.

There have been some impacts related to international supply chains and international expertise for highly technical projects – these challenges are being managed in the short-term and an issue to be closely monitored going forward.

Aviation impacts leading to excessive airfreight costs, around 3 – 4 times pre COVID-19 prices, are challenging local technology manufacturers who supply international markets. While this impact is manageable in the short term, should travel restrictions remain in force in the longer term, this may become a more significant barrier to our local technology exporters.

Our transport operators are playing a valuable role in providing safe transport services to the community, but they are experiencing a significant reduction in patronage and are in discussion with governments regarding appropriate responses – such as potential timetable changes. Ongoing communication regarding the additional hygiene and distancing measures across shared transport will be important to rebuild community confidence in shared and public transport services as the need to travel returns.

## OPPORTUNITIES FOR TECHNOLOGY TO MINIMISE NEGATIVE IMPACTS POST COVID-19

Intelligent transport systems (ITS) enable transport operators to get the most out of their transport networks. Sophisticated road safety infrastructure technology improves road safety outcomes, network optimisation projects reduce congestion and transport and road monitoring systems ensure a better response to incidents and disruptions on the transport network. ITS enables transport to be safer, more efficient and effective.

From managed motorway technology on major infrastructure projects to incorporating ITS on our orbital networks, the application of digital networks and technologies enables smarter use of transport infrastructure.

To facilitate this we need to ensure that all new transport projects include smart transport technology infrastructure. This will not only deliver jobs for today while building increased capability and a better understanding of travel

movements, but it will also lift the productive capacity of the economy and the workforce over the longer term.

This is an opportunity to further build Australian expertise in increasingly technical and specific technologies. We have local offices of many global ITS industries in Australia. These organisations are pivoting to train up local Australian expertise through their international capability to deliver projects that would more typically involve international expertise. The current context makes this a unique opportunity to build local expertise in a growing international field.

## NEXT STEPS

Changed work practices will be key in responding to the challenges industry is facing. We note that *Highways England* have adjusted some commercial terms to help with the challenges of COVID-19. These include a temporary relaxation on some work requirements to allow people to work from home and *Highways England*'s undertaking to improve the speed of supplier payments.

There are some challenges industry faces that benefit enormously from government commitment to consistent practices, including the continued support for existing projects and prompt payment terms. Any flexibility with contracts related to delivery of transport services to enable response to reduced travel demands would be highly regarded, as would a continuation of existing procurement processes. In the case of delayed procurement, clear direction on the timeline going forward is highly valued by industry. This is both to minimise delays to support consistency of workflow and reducing the likelihood of workers being laid off, and business having to re-hire.

As indicated in *Infrastructure Australia*'s priority list, many ITS projects have been shown to provide a strong cost-benefit ratio, and both future proof transport projects and provide immediate network benefits.



We strongly support ensuring transport infrastructure projects are delivered with smart and connected technology included, to optimise the efficiency of the massive investment governments are making in these assets.

### FUNDING THE FUTURE

With such a massive shock to the economy, our businesses, and communities, there is a very real opportunity to implement positive changes that could only be considered in times of major change.

Considering the wide-reaching economic impacts that are being experienced, we consider that it is timely for governments to consider the opportunity to move to a broader user-pays system for transport services removing some of the burden from the tax-payer to the user. Transport technology developments have ensured that there are many suitable pathways to achieve this change.

### CONCLUSION

As the peak body that represents national and international ITS organisations, we strongly support an approach that works towards harmonisation and cross-jurisdictional considerations.



The establishment of the National Cabinet supporting national collaboration, with the opportunity for state-based jurisdictional differences has been appreciated in the COVID-19 response. Similarly, as we move forward with new projects incorporating technology that will be with us for many years

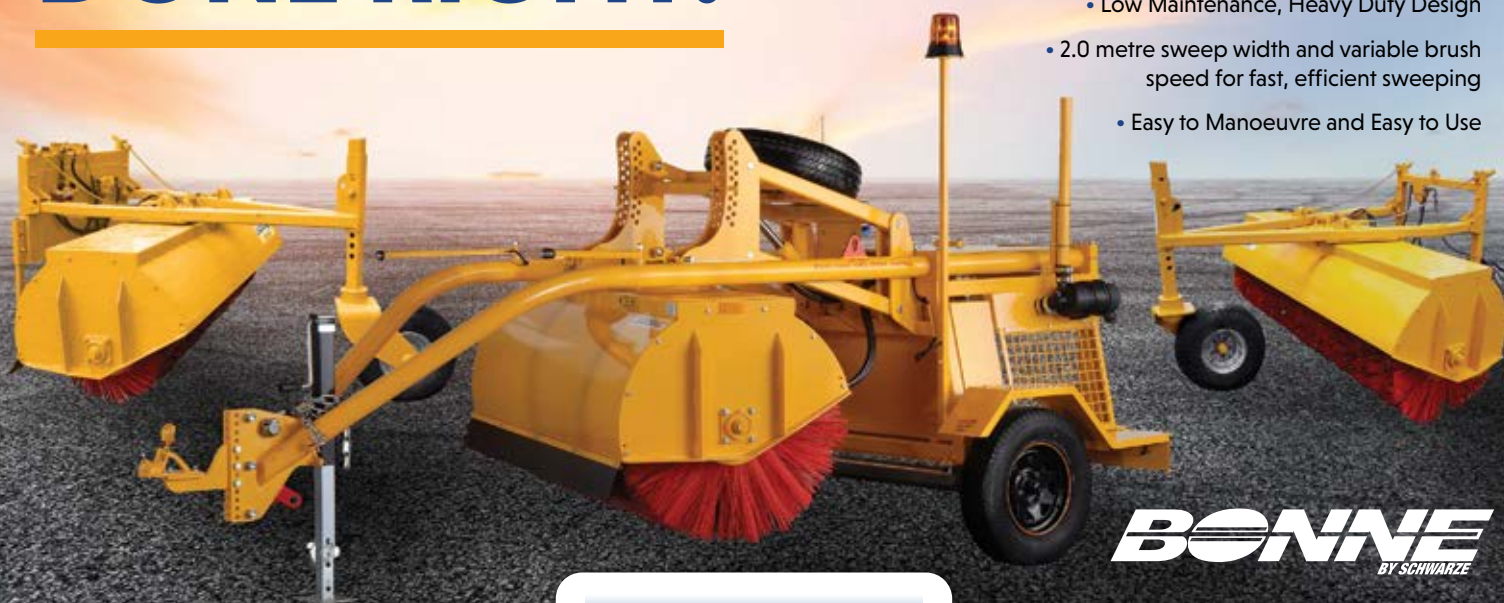
into the future, we would encourage continued national collaboration and harmonisation to avoid disconnects as we move across state borders.

ITS Australia is available to support government deliberations on suitable approaches and to connect governments with industry leaders.

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# HIWAY STABILIZERS TAKE DELIVERY OF FIRST VOLVO P8820C PAVER IN AUSTRALIA

**The P8820C ABG tracked paver from Volvo Construction Equipment helps the Australian company lay deep passes with its dual tamping and vibrating screed with variable width.**

Hiway Stabilizers, an Australian company delivering advanced stabilisations solutions for pavements, recently took delivery of the first P8820C ABG tracked paver in Australia from Volvo Construction Equipment (Volvo CE).

"The Volvo P8820C is the ideal tracked paver for Hiway Stabilizers because of its capacity to lay deep passes due to the dual tamping and vibrating screed with variable width of 3 m to 6 m. Plus, it has the capacity to go up to 13 m with extensions," said Paul Rhoden, general manager north, Hiway Stabilizers.

The P8820C paver was delivered to Hiway Stabilizers team in Loganholme, Queensland, where it will be predominately used in the company's mobile operations, travelling to meet customer's needs. Once on site, the

P8820C paver is typically used to lay foam bitumen, asphalt, sub-base and rail ballast.

The P8820C ABG can pave up to 13 meters and place an incredible 1,100 tonnes per hour. Such high levels of throughput make these pavers suitable for a wide range of applications, from municipal roads and highways to waste storage areas. They also excel in paving a range of materials, from wearing course and binder course down to base course or even frost protection layers like CTB. The P8820C paver's lift depth can go up to 300 mm, depending on the material used, while the screed can be hydraulically adjusted to  $\pm 10\%$  crown.

Relevant paving information is easily available at operators' fingertips thanks to Pave Assist powered by Volvo Co-Pilot. Pave Assist displays material management, weather view function and thermal mapping information via an on-board computer and display.

To facilitate clear communication when feeding material into the hopper, the paver is fitted with Smart Dock, which displays instructions to the driver to stop, go, slow, tip, lower or hold. A remote control also

allows the operator or another crew member to convey the message, enabling a safer way to operate on construction sites.

Rhoden says another important factor in the company's purchasing decision was the excellent aftermarket services from CJD Equipment.

"We previously purchased Volvo wheel loaders from CJD Equipment and trust the CJD team in Queensland with their servicing support," Rhoden said.

"As a leader in the industry, we need reliable partners and the most advanced machinery to stay ahead of the game. This is why we choose to work with the experienced team from CJD and quality machines from Volvo CE."

Established in 1982, Hiway Stabilizers has operations in Queensland, New South Wales, Western Australia, Victoria, Tasmania as well as its original operations in New Zealand and the Pacific Islands. Hiway Stabilizers purchased all Volvo CE machines from CJD Equipment, Volvo CE's distribution partner in Australia.

For further information, please visit:

[www.volvocce.com/australia](http://www.volvocce.com/australia)





# LEICA GEOSYSTEMS INTRODUCES STRINGLESS PAVING ON THE ONE-FOR-ALL LEICA MC1 SOFTWARE PLATFORM

Leica Geosystems, has released the update of the latest Leica iCON asphalt paving solution on the one-for-all Leica MC1 software platform. With the all-in-one machine control platform MC1, Leica Geosystems delivers an intelligent and intuitive hardware and software combination supporting multiple machines for the heavy construction industry, including asphalt pavers.

3D stringless paving was invented more than 20 years ago by Leica Geosystems to increase safety on site. Two-decades of experience and continuous innovation led to the Leica iCON pave machine control solution to make paving work easier for asphalt operator and contractors, delivering high-quality surface finish consistently and faster than traditional methods.

The asphalt paving solution enables operators to precisely place cement-treated base course or start asphalt paving directly without waiting for manual stakeouts. The operator can change the height offset directly on the run screen, and thanks to

the automatic leapfrogging, paving surface quality is increased. The solution is fully compatible with Leica iCON site and Leica ConX for seamless data sharing, file transfer, as-built documentation, track, view and sync functions.

"The MC1 simplifies design data handling and is open to all standard design data types, enabling a flexible data flow to support common workflows on road construction or paving job site," said Kris Maas, director of product management of machine control at Leica Geosystems.

"With the release of the updated MC1 software, Leica Geosystems is bringing new features to the iCON pave solution to further increase accuracy, save time, costs, and provide consistent high paving quality 24/7."

## INCREASED PAVING ACCURACY

MC1 software has now been released for the entire iCON road segment, including soil compactors, concrete pavers, asphalt pavers and milling machines. The software has an uncluttered and user-friendly interface with

the latest updates included:

- Support of the Leica MSS400 sensors.
- Terrain models for milling and asphalt pavers.
- Smartspare TPS, a new feature for the handling of spare TPS tracking and lock to target.
- Support of the iCR80S construction total station.

"The changes made from PaveSmart to Leica iCON are big, and it seems like Leica Geosystems listened to their customers because the process is more streamlined, which in our world means time and more importantly, money," said Doug Browning, survey manager at Walsh Construction and Archer Western, U.S.

Building on more than 20 years of experience with 3D stringless paving solutions, technological developments like the automatic leapfrog and the MC1 software platform prove that Leica Geosystems continues leading 3D solutions for the paving industry.

For further information, please visit:

[www.leica-geosystems.com](http://www.leica-geosystems.com)



# BORAL TAKES OFF IN AN AUSTRALIAN- FIRST WITH INNOVATIVE RUNWAY PROJECT

Boral's Queensland asphalt team has upgraded Emerald Airport in an innovative project showcasing Australia's first stone mastic asphalt runway.

The stone mastic asphalt runway is expected to last five-plus years longer than a standard asphalt runway surface and forecast to provide significant savings for Central Highlands Regional Council, the airport owner, in future maintenance costs due to the longer lifespan.

Emerald Airport Manager Salomon Kloppers said using stone mastic asphalt also eliminated the need to cut regularly spaced grooves in the 1.9-kilometre surface – a normal runway compliance process that could have cost the council up to \$700,000.

"We were looking for solutions that would both fix the problems, but then also help us deliver a cost-effective maintenance solution going forward," Salomon said.



"What SMA is allowing us to do is to stretch the period between construction and that major maintenance maybe a decade, a decade-and-a-half into the future.

"The thing that makes it so special is the fact that we knew that it's probably the biggest innovation in Australian airports since the inception of Marshall mixes a couple of decades ago."

Stone mastic asphalt contains a larger proportion of coarse aggregate and more binder than traditional runway surfaces and provides the same skid resistance performance as grooved runway surfaces. Additional benefits of stone mastic asphalt include increased rut resistance, durability and performance in hot and cold weather – all key considerations for the airport project.

Identified by the customer as an expert in the field, Boral was selected for its operational

and technical expertise developed through our extensive use of stone mastic asphalt.

"The key strength we found in Boral is that they have huge experience in laying stone mastic asphalt across the state on road projects," said PJ Cullivan, a partner at GBA Consulting Engineers.

"We've had positive experiences with everyone involved. We managed to do it in the timeframe, within the budget. The compliance has been amazing."

Boral Asphalt Area Manager – Rockhampton, David Daniel, said the project was a rewarding opportunity for Boral.

"We're proud to be part of that. It's great for Central Highlands, the region and it's great for the industry because it just brings it to the next level," Mr Daniel said.

Boral collaborated with the project team to develop mix designs and perform placement trials prior to resurfacing the main runway, taxiway and apron bays, reconstructing the general and eastern aprons and refuelling area, and expanding the general apron.

The works were primarily performed at night to enable the airport to return to live operations from 5.30am each day. The works were part of a \$16 million upgrade of Emerald Airport's facilities.

## AIRTEC OFFERS TRANSPORT OPERATORS NEW OPTIONS FOR TYPE-APPROVED OBM SYSTEM

Transport Certification Australia recently announced Airtec Corporation's (Airtec) new option for transport operators wanting to benefit from its existing type-approved OBM system.

Airtec is a leading supplier and manufacturer of digital tyre inflation and truck scales and mass management systems around the world. Its 89AXM Series OBM system obtained type-approval in April 2019.

This same OBM system can now be used with an alternate Mass Sensor Unit (MSU) – the part of the OBM system that measures axle mass loads – offering choice to transport operators.

The OBM system and new MSU model are designed to work together – details are listed in the table below.

David Hewett, Managing Director of Airtec Corporation, said: "The 89AXL400 Series is a smart truck scale that is cheaper and easy to use, while still offering the benefits of type-approval."

"By using wireless technology between trailers and prime movers, we've been able

to introduce greater flexibility for transport operators, and reduce set-up costs."

"Airtec's experience within the transportation sector, and its expertise in developing on-board mass and inflation systems for over 20 years, contributes to a strong and focused mass management solution," said Mr Hewett.


There are three categories of type-approved OBM systems (categories A, B and C) which meet the needs of different stakeholders. Category A OBM systems electronically display mass information to drivers or loaders.

All categories of type-approval are subject to an assessment of the performance-based requirements contained in the OBM System Functional and Technical Specification.

A list of type-approved OBM systems is available on the TCA website: [www.tca.gov.au](http://www.tca.gov.au)

For more information on the National Telematics Framework, contact TCA on (03) 8601 4600 or by email to: [tca@tca.gov.au](mailto:tca@tca.gov.au)



Supplier	OBM system model	Category	MSU model	
Airtec Corporation Pty Ltd	89AXM Series	Category A	89AXL400 Series	

## NEW TCA WEBSITE: NEW LOOK, IMPROVED ONLINE EXPERIENCE

TCA recently launched its new look website at: [tca.gov.au](http://tca.gov.au)

### WHAT'S CHANGED?

We've aimed to improve your online experience when you visit our website, with improved graphics and easier navigation to help you find what you're looking for, including information about:

- The National Telematics Framework
- Our suite of applications and features
- Service providers operating in the framework
- Type-approved hardware
- Publications

Our new website is also mobile friendly across a range of devices and browsers, has improved accessibility and allows for much faster load times for web pages, with improved search functions.

### NEW SECURE ACCESS DOCUMENTS

We've also implemented a new login system that allows users to access secure documents on a simple landing page, with documents relevant to them.

If you have any questions or feedback about the new website format, or to report an issue, please email us at: [tca@tca.gov.au](mailto:tca@tca.gov.au)





# TCA RELEASES NEW SPECIFICATION FOR TELEMATICS DEVICES

Transport Certification Australia recently released a new specification for telematics devices. The new *Telematics Device Functional and Technical Specification* responds to the rapid pace of technological developments, the growing use of devices on assets other than vehicles, and the use of lower-level assurance applications through the National Telematics Framework.



The specification replaces the *Telematics In-Vehicle Unit (IVU) Functional and Technical Specification* and retains a focus on performance outcomes to encourage innovation and the deployment of new technologies.

The new specification complements the new applications and features available through the National Telematics Framework, covered in the business case approved by the Transport and Infrastructure Council in November 2018.

With road managers and regulators across the country using the Road Infrastructure Management (RIM) application and the Telematics Monitoring Application (TMA), the release of the new specification aims to:

- Remove unnecessary hardware requirements for lower level assurance applications (such as RIM and TMA);
- Lower barriers to entry for new hardware (and suppliers of hardware);
- Reduce costs to transport operators and other users of telematics; and
- Increase the use and adoption of telematics across a diverse range of industry sectors.

TCA's operational experience in managing applications through the National Telematics Framework, coupled with feedback from stakeholders, directly informed the analysis of requirements for different levels of assurance.

A key feature of the new *Telematics Device Functional and Technical Specification* is that it separates core requirements from additional requirements reserved for applications that demand high levels of assurance. This means different telematics devices can be used to meet different performance levels, based on user needs or the level of assurance wanted.

For example, Level 3 assurance applications rely on telematics devices having a combination of physical and cyber safeguards to deliver high levels of accuracy and integrity from devices. These safeguards, however, are not necessary where stakeholders place a greater emphasis on flexibility and lower costs.

The specification enables technology providers to reference a nationally-consistent set of performance requirements to guide the development of devices that meet the demands of stakeholders using the Framework. Transport operators and end-users of telematics applications can also use the specification to benchmark existing technologies fitted to their vehicles and make informed decisions when buying new telematics devices.

The list of type-approved telematics devices currently available, and which have been independently assessed by TCA and meet the performance requirements of the specification, is published on the TCA website: [www.tca.gov.au](http://www.tca.gov.au)

For more information on the National Telematics Framework, talk to us by phone on (03) 8601 4600 or by email: [tca@tca.gov.au](mailto:tca@tca.gov.au)

The new *Telematics Device Functional and Technical Specification* can be downloaded from: <https://tca.gov.au/publication/https-tca-gov-au-specification-telematicsdevicefts-version4-1>

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# TRIPLE BLENDS DELIVER STABILISATION BENEFITS

## ABOUT AUSTSTAB

AustStab was established in 1995 to provide a unified approach to the recycling and stabilisation of road pavements across Australia and to develop national standards of research and performance.

AustStab is considered to be the only national industry association in the world that is solely dedicated to stabilisation of pavements using insitu and plant-based modification of pavement materials and has been instrumental in bringing together the experience of road authorities, contractors, consultants and suppliers to develop unified specifications and design and construction methods.

The pavement recycling and stabilisation industry has developed under the stewardship of AustStab to become a sophisticated pavement management process undertaken by specialised plant and equipment. Modern processes are capable of the full range of pavement recycling and stabilisation, including deep-lift construction, and can deliver a range of benefits to pavement design and road maintenance engineers.

The objectives of AustStab are to:

- promote the benefits of pavement recycling and stabilisation,
- set national standards of performance,
- assist and coordinate research, and
- educate and train people in the industry.

**Quality Assurance:** AustStab provides independently assessed assurance of quality through an accreditation scheme run in collaboration with the ARRB Group. The AustStab/ARRB Accreditation Scheme focuses on ensuring pavement recycling and stabilisation works are carried out to best practice.

**Training Courses:** AustStab, in conjunction with the Centre for Pavement Engineering Education (CPEE), runs Stabilisation Fundamentals courses across Australia every year. This course briefly reviews the types of stabilisation before more detailed presentations on types of binders, material characteristics, structural and mix design detailing, with sessions on specifying and case studies for practical outcomes.

**Technical Publications:** AustStab provides detailed technical information for refining design, testing and construction for pavement stabilisation and recycling throughout Australia. AustStab also engages in research and trials and shares the results throughout the industry to increase the knowledge base and promote improved outcomes. Available technical resources include national model specifications, national guidelines, construction tips, technotes, research reports and comprehensive guides, including the popular Pavement Recycling and Stabilisation Guide and the Insitu Stabilisation Construction Guide.

For further information visit: [www.auststab.com.au](http://www.auststab.com.au)

The benefits and guidance on the use of triple-blends in pavement stabilisation have been explained in a new technical note published by AustStab.

Pavement stabilisation is the improvement of a soil or pavement material and often involves the addition of small quantities of cementitious or bituminous binders.

Common cementitious binders used in stabilisation include general-purpose cement (GP cement) in blends with slag and/or fly ash. Slag and fly ash are by-products from the manufacture of steel and the consumption of black coal in power stations respectively. The slag is ground to produce a fine powder known as ground granulated blast furnace slag (GGBFS) and is extensively used in road and building construction. These materials are predominantly made up of oxides of calcium, silicon, aluminium and iron. Lime is also a commonly used stabilisation binder, particularly where improvement to highly plastic soils is required.

Insitu stabilisation techniques have long been used by engineers in construction and rehabilitation of pavements to deliver

improved engineering performance, particularly road pavements. By recycling the existing pavement materials, insitu stabilisation techniques can also deliver a variety of cost, environmental and social benefits, for example by:

- reducing or eliminating the need to excavate existing pavement materials
- eliminating the trucking of large quantities of materials on and off site
- reducing the disposal of excavated materials, which still have usable asset value
- reducing the need to quarry replacement materials, which are in themselves finite resources
- providing a quicker pavement rehabilitation process that causes less traffic disruption
- reducing overall energy usage and GHG emissions.

Cementitious binder blends are now more commonly being chosen to suit specific soil types. Such blends typically consist of a combination of cement, slag, fly ash and lime in various proportions, many of which are available in so-called 'triple blends'.





"Triple-blend stabilisation is increasingly being utilised to improve the engineering properties of existing pavement materials where traditional cementitious or lime binders alone will not provide the desired strength outcome," explained Stuart Dack, AustStab CEO.

Although they have been in use across Australia for some time, guidance on the use of triple blends is not provided in the Austroads publication, *Guide to Pavement Technology Part 4D: Stabilised Materials*.

"This is why AustStab produced the technical note. It provides engineers with a basic introduction to the most commonly available triple blends and their benefits," said Dack.

Triple blends are typically combinations of slag and fly ash with either cement or lime.

"The use of supplementary cementitious binders such as fly ash and slag, both materials that could be thought of as waste by-products, is a well-established practice in pavement stabilisation. Their use is a great example of waste utilisation delivering engineering benefits. And it's not as if there's any quality risk either because they are both covered by Australian Standards – AS 3582.1 for fly ash and AS 3582.2 for slag," said Dack.

"The use of these binders in situ stabilisation to improve existing pavement materials has to be one of the best examples of the circular economy in action."

The AustStab Technical Note 'Triple-Blend Stabilisation' is available for download from:

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

## AUSTRALIAN PAVEMENT RECYCLING AND STABILISATION CONFERENCE CANCELLATION

This year's Australian Pavement Recycling and Stabilisation Conference, which was scheduled to take place on 29th July 2020, has been cancelled. Cancellation of the 2020 conference means that other associated activities will also be cancelled, including the golf competition and informal dinner scheduled for Tuesday 28th July and the AustStab Gala Dinner and Awards

Night scheduled for Wednesday 29th July. This means that no AustStab Awards of Excellence will be awarded for 2020 and consequently Award nominations are now closed, as is the conference Call for Papers. AustStab thanks those who have submitted conference abstracts and awards nominations and will be in touch to discuss the possibility of their re-submission in 2021.



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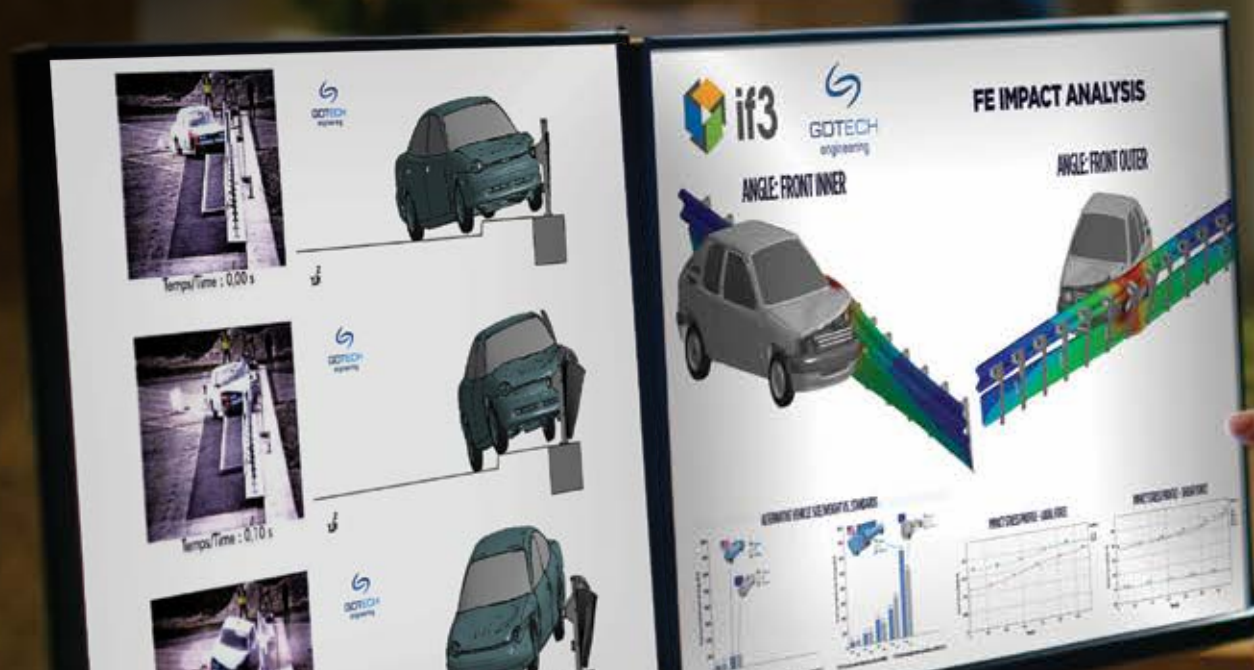
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# PRECASTING SAFER INFRASTRUCTURE

The Covid-19 pandemic has thankfully permitted construction to continue and builders around the country are managing strict social distancing and hygiene requirements.

According to National Precast Concrete Association CEO Sarah Bachmann, so too are precast concrete manufacturers who are members of the Association, who supply factory-manufactured – or prefabricated – elements to essential infrastructure.

“The continued maintenance, functioning and construction - particularly of essential infrastructure like roads, rail and bridges, and buildings such as hospitals, government facilities and shopping centres – requires the precast concrete industry to stay operational too,” says Bachmann.

When these structures are being built or maintained, precast concrete is very often used. Precast concrete elements, whether they be walling, flooring, beams and columns, or stairs, are manufactured off-site in factory-controlled conditions.

As well, road and rail infrastructure works are underpinned by drainage systems that incorporate precast elements such as pipes, box culverts and other elements.

“Continuity of supply of these items is key to maintenance works and continued construction of transport and building infrastructure,” Ms Bachmann claims.

## ENCOURAGING MORE PRECAST BEFORE WINTER HITS

Ms Bachmann goes one step further, saying that its use should be encouraged during the virus pandemic, because being manufactured off-site, it offers safer and more efficient construction.

“While Australia seems to be faring better than many other countries, as winter approaches that situation may change. Precast should be used more for essential infrastructure construction, simply because it does make sites safer. As well, it isn’t affected by inclement weather conditions,” Ms Bachmann claims.

“We sometimes see head contractors setting up ‘factories’ in remote infrastructure locations,” she said. “That is almost akin to fabricating products on site, as it doesn’t necessarily remove works from the actual site.

“Being manufactured in factories away from sites, final elements are delivered to site. That reduces the need for individual trades and labourers, eliminates formwork, minimises waste and generally de-clutters sites.”



Being manufactured off-site, Precast offers safer and more efficient construction.



Road and rail infrastructure works are underpinned by drainage systems that incorporate precast elements such as pipes, box culverts and other elements.

“That becomes even more important when we want some industries to be able to continue operating for economic reasons, and when we all need to obey social distancing and strict hygiene requirements,” Ms Bachmann added.

## FACTORIES CONTROL RISK

Precast manufacturing engages strict WHS requirements and practices. Factories offer a safe manufacturing environment with isolated workstations and appropriate PPE.

“We know our members have all put in place strict additional requirements to minimise the spread of Covid-19.”

“They have also rolled out other initiatives to address the threat of virus spread among their workers, including separating shifts of workers, isolating workstations, staggering start and break times, distancing workers during breaks and other measures,” Ms Bachmann commented.

The decision by federal, state and territory governments to allow construction, maintenance and associated manufacturing works to continue is applauded by the precast industry’s peak body. “The next step is to recognise the safety and efficiency of using precast and recommend its use. That will ensure all workers in the construction and manufacturing supply chain are better protected as they continue to deliver and maintain essential infrastructure,” she concluded.



Precast concrete offers an array of benefits for road and bridge infrastructure projects of all sizes.



# NATIONAL PRECAST WELCOMES NEW RELATIONSHIP MANAGEMENT TALENT

With around 35 years' experience in senior roles within CSR, Holcim, Humes and Cemex, Peter Coombs has extended his involvement with National Precast. Already the organisation's Queensland State Co-ordinator, Peter has also accepted a consulting role to look after National Precast's work with roads' authorities.

Since working with the likes of CSR, Holcim, Humes and Cemex, Peter has been consulting to a range of construction and building materials' organisations, providing services including process analyses, gap identification, improvement planning and strategy development.

Peter takes over the roads' advocacy work from Sean O'Gorman who was previously Technical Services Manager with the Association. Sean has moved into a full-time workload with the University of Adelaide as he pursues his PhD scholarship.

"We wish Sean all the best as his new venture with the University rolls out. He's been

instrumental in resolving several matters on behalf of members," says National Precast's CEO Sarah Bachmann.

"Liaising and working with roads' authorities is an important part of our work. Our membership comprises many civil precasters, including the country's largest manufacturers like Humes, Rocla and Reinforced Concrete Pipes Australia."

"As well, we have many state-based manufacturers who supply the authorities. Developing and maintaining good working relationships with the roads' authorities is imperative to very many of our members' ongoing operations," Bachmann adds.

Coombs will offer a different skill to what National Precast has experienced until now.

"Peter has worked in very senior management roles and is well across requirements for both precast manufacturers and state roads' authorities. One of his key leadership strengths is being able to distil

business frustrations down to simple solutions that form the basis of strategic redirection. We see this is a huge benefit going forward and we are pleased to welcome him to the team."



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# MCT ITALY SUPPORTS MELBOURNE METRO TUNNEL:

ONE OF THE LARGEST PUBLIC TRANSPORT PROJECTS UNDERTAKEN IN AUSTRALIA

The Metro Tunnel Project will free up space in Melbourne city loop to run more trains to and from the suburbs, by taking busiest train lines through a new tunnel under the city. That means more trains, more often across Victoria, with a less crowded and more reliable train network.

## The Melbourne Metro Tunnel consists of:

- A project which will create a new end-to-end rail line from Sunbury in the west, to Cranbourne/Pakenham in the south-east, with high capacity trains and five new underground stations.
- The Sunbury, Cranbourne and Pakenham lines will run exclusively through two new 9 Km tunnels, meaning that the remaining lines will be able to run more services through the existing City Loop.
- This results in a capacity increase on the network which will enable 504,000 more passengers to be able to use the rail system during each peak period.
- This project is expected to increase the capacity of the Melbourne railway network by an additional 39,000 passengers during each peak travelling period per day. It is expected to be finished by 2025.

The Metro Tunnel Project is the biggest ever public transport infrastructure project in Victoria's history.

CYP Design & Construction, a joint venture comprising John Holland, Lendlease and Bouygues Construction, have been contracted to deliver the Project's twin nine-km rail tunnels and five new underground train stations - Arden, Parkville, State Library, Town Hall and Anzac - through the centre of Melbourne.

To build the twin tunnels, a purpose-built concrete segment manufacturing facility has been built by CYP in Melbourne west to produce the 56,000 segments required to line the tunnels. Boral has been engaged by CYP to supply the concrete for the facility.

Four tunnel boring machines (TBMs) are now underground and building the Metro Tunnel- TBMs Joan and Meg are tunnelling from the site of the new Arden Station to Parkville, and TBMs Millie and Alice are tunnelling from the Anzac Station site to the eastern tunnel entrance in South Yarra. The TBMs are expected to arrive later this year.

As the TBMs move underground, they progressively install the concrete segments to build the tunnels.

Boral's Project Manager Catherine Wood affirmed: "Boral worked closely with CYP to develop mixes suitable for the project, including extensive quality, performance and fire testing for the segments that will line the







**Left:** A section of the completed Metro Tunnel with concrete segments manufactured at a custom-built facility in Melbourne's west.

**Above:** MCT Polypropylene and Steel fibre dosing systems.

**Below:** Tunnel segments in storage.

tunnels. Boral's innovation and technical teams from across the country have been developing solutions for the technically complex elements of this project."

"CYP built this project-specific facility adjacent to Boral's Deer Park operations, with Boral building a bespoke concrete batch plant to supply the required concrete" she said.

The manufacturing facility has created more than 80 new jobs in Melbourne's west and has prioritised the employment of ex-automotive workers.

### MASSIVE METRO TUNNEL FACTORY

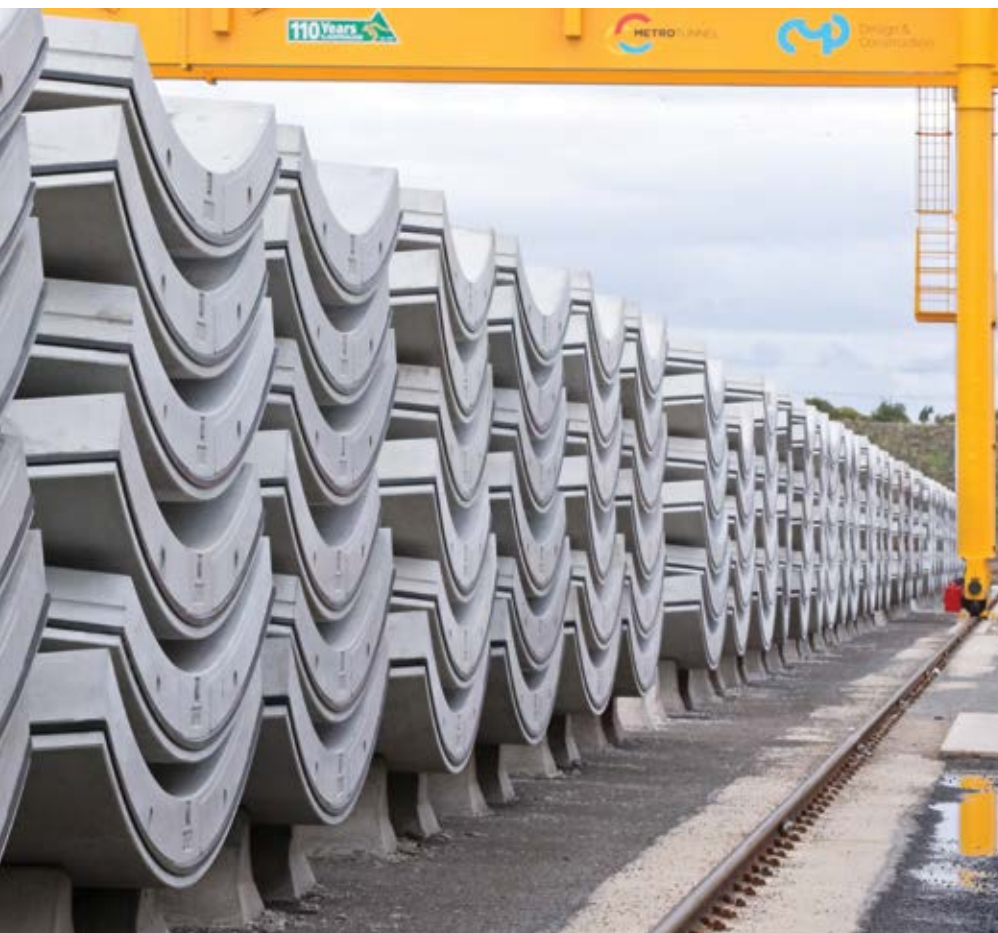
A huge, state-of-the-art concrete plant is helping build the Metro Tunnel and creating jobs in Melbourne's west.

MCT Italy, in a true partnership with the Australian Partner and National Precast member Bennett Equipment from Adelaide, delivered a special concrete batch plant, to Boral specifically designed to produce the concrete for the tunnel segments.

The high quality concrete - containing 35 kg/m<sup>3</sup> of steel and 1.5kg of polypropylene fibres per cubic metre - is batched using two Eurostar 3000\2000 planetary mixers and transported by dedicated flying bucket to the mould casting area. The concrete has undergone a series of tests to ensure it meets the required Standards for strength and durability.

The concrete mix is produced to extremely tight tolerances to ensure that all admixtures and dosed components including fibres are applied at the required rates, resulting in precast components which are capable of passing even the harshest performance testing - including fire testing.

Weighing in at 4.5 tonnes, the precast tunnel segments are stored at the precast facility prior to be transported to the tunnelling sites at Arden



and Domain. At peak production, the factory will churn out around 240 curved segments every day – one every six minutes.

### ANOTHER FLAGSHIP PROJECT FOR MCT IN AUSTRALIA

Boral's Project Manager Catherine Wood said the Boral selected MCT to supply the batch plant due to the positive experiences with similar MCT precast plants on comparable projects in Perth and Sydney.

"The precast plant was sourced from MCT and erected by local contractors under MCT representatives' supervision," Ms Wood added.

The MCT plant in Perth enabled Boral to supply concrete to the Forrestfield-Airport Link project (main contractor SI-NRW JV: Salini Impregilo-NRW) that will link Perth Airport to the CBD by train, while the Sydney was used by Boral to supply the Sydney Metro (main contractor JHCPBG JV: John Holland - CPB - Ghella), a project revitalising the city's rail network.

Speaking about the Melbourne plant, Mr Gabriele Falchetti, Executive Australia Sales Manager of MCT Italy, pointed out: "Boral's

highly specified concrete is being supplied to meet the project's stringent fire resistance requirements via a purpose-built precast batch plant at Deer Park site. MCT Italy is honoured to have been selected to work with the Victorian State Government to build a lasting legacy that will transform Melbourne - creating massive economic opportunities and greatly improving the daily lives of so many people."

"MCT envisions itself to be recognized as a quality manufacturer and an innovator of precast concrete solutions globally. Our aim is to attain profitable growth through setting the highest standards in service, quality, safety and cost containment in our industry," Mr Falchetti added.

"The success of the batching plants installed in Perth and Sydney, and now this latest plant in Melbourne, confirm that our customer-oriented solutions, together with high quality equipment and components, are the win-win cards to play."

"MCT Italy's overall concept of the system is thus in perfect harmony with our objectives to produce quality products in the factory with the minimum variables to handle production processes," he said. "We are also adopting

digital technologies and automation, to remain competitive in the long term - infusing and adopting new technology and an integrated traceability system which will ensure that we remain relevant well into the future," he concluded.

For further information, please visit:  
[metrotunnel.vic.gov.au](http://metrotunnel.vic.gov.au)



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Boral's MCT batch plant in Deer Park in Melbourne's outer-western suburbs.



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# HYSTER CELEBRATES 60 YEARS OF LIFT TRUCK SOLUTIONS IN AUSTRALIA & ASIA-PACIFIC

A brand renowned globally for powerful, tough and reliable lift trucks backed by strong customer service partnerships, Hyster-Yale Group, Inc. is celebrating 60 years of growth since Hyster's establishment in Australia and ongoing expansion throughout the Asia-Pacific.

The celebrations - marked with a thank you function for staff at the same Sydney HQ inaugurated in 1960 - highlight a series of company milestones and achievements that have seen the Hyster-Yale Group spread its wings locally and regionally with its global range of materials handling equipment and expanding network of strong, service-oriented dealers responsive to each unique market.

"The range available to satisfy diverse needs throughout the region now extends from the largest container handlers and reach stackers, through nearly every type and size of warehouse equipment, to lift trucks suitable for handling all types of palletised or non-palletised loads," said Hyster-Yale Vice President, Big Trucks and Solutions, JAPIC, Mr Tony Fagg.

Hyster-Yale Asia-Pacific continues to evolve a stream of innovation, including the introduction last year of the new Hyster® UT and Yale® UX series diesel or dual-fuel counterbalance lift trucks, pallet trucks and stackers, which deliver an attractive, affordable and uncomplicated range for

low intensity applications across many Asia-Pacific industries, including food and beverage, warehousing, manufacturing, logistics and intermodal distribution.

"Hyster's reputation for rugged strength, reliability and service backing - originally founded on our machinery's performance in lumber yards, ports and the military during WW2 - was rapidly spreading worldwide as the Australian HQ was established in 1960," said Mr Fagg.

By 1960, Hyster's product line had grown from the original Hyster winches used on battlefields and the first "Handy Andy" small forklift, to a range of 130 models spanning five classes.



The original Hyster headquarters in Sydney, Australia, from which the combined Hyster-Yale brands were spread throughout the Asia-Pacific, now drawing on the strength, efficiency and diversity of manufacturing facilities in China, America and Europe.





**Above:** From its earliest days, Hyster Australia was involved in developing customer-responsive tough machinery backed by outstanding service.



***“Advanced and efficient distribution and service will continue to be a keystone of our performance over our next 60 years, as we embrace the benefits of micro-distribution technologies that swiftly deliver the components needed to maintain productivity.”***



The company forged powerful partnerships across the globe, a process which was extended Down Under from those early days by the growth of a strong professional dealer and service network extending across Asia-Pacific.

“Strong relationships that are in turn backed by Hyster Asia-Pacific building relationships and partnering with customers, suppliers, dealers, and employees,” said Mr Fagg. “Our ongoing objective, now as well as then, is to offer the broadest possible range of materials handling solutions choice to customers in the region.”

“Today, this is supplied through our long-established and expanding local dealer network and draws on the diverse capabilities of manufacturing facilities that have evolved to serve our diverse markets. Our major manufacturing facilities in America, China and Europe all produce to the standards of quality and value on which the Hyster brand was founded.”

Quality and reliability assurance have long been hallmarks of the brand. What began as a 2-hectare (5-acre) testing site in the US in the 1960s is now a 31.5 hectare (78-acre) facility with a wide range of testing technologies that help ensure every Hyster lift truck exceeds expectations. Hyster Asia Pacific also draws on regional product development centres for lift trucks to produce solutions that drive productivity.

A milestone in this expanding distribution process was established recently when the company complemented its network of SE Asia dealers with the establishment of Hyster-Yale Lift Trucks Singapore Pte. Ltd.

The new entity – which replaces Hyster Singapore Pte Ltd – unites under the one roof the resources of the previously separate Hyster and Yale dealerships to create a stronger and more diverse sales and rental offering from the one outlet, offering strong product range, service and applications engineering.

“Advanced and efficient distribution and service will continue to be a keystone of our performance over our next 60 years, as we embrace the benefits of micro-distribution technologies that swiftly deliver the components needed to maintain productivity. These technologies will assist us to streamline the supply chain – eliminate entire steps in the process – and further simplify service and parts practices that enable our network to respond to customer need with even greater speed and precision,” said Mr Fagg.

“Product innovation and technology leadership that has been strongly developed in the decades since our establishment will continue to forge ahead, with a stream of new regionally responsive product that emphasises safety, energy efficiency, reliability, sustainability and advanced compliance with environmental safeguards,” he added.

Hyster-Yale lift truck and materials handling ranges span the spectrum of industry needs.



"Underlying all this progress will be the tradition of *Strong Partners with Tough Trucks* for demanding operations anywhere. Our machinery will continue to combine innovative design, industrial-strength components, state-of-the-art manufacturing and testing - whether Hyster or Yale machinery is designed for 24/7 operation, or cost-efficient smaller operations keyed to the needs of different industries," Mr Fagg concluded.

For further information, please visit:  
[www.hyster-yale.com](http://www.hyster-yale.com)

### WHAT'S IN A NAME?

Legend has it that loggers using the winches and lifting equipment made by the Willamette-Ersted Company (one of the original parent companies) in the 1920s would cry out "hoist 'er" as they prepared to lift a load. The expression - spelled out as 'Hyster' - sticks, marking the beginning of the Hyster lift truck history. The company was renamed as Willamette Hyster Company in the early 1930s before formally adopting the name Hyster Company in 1944.



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