August 2023

THE TELIT

The TITAB Cabling Newsletter

TITAB AUSTRALIA

Highlights

Editorial

Telecommunications is an essential service. Are we ready for summer?

Over the last three years or so, there has been widespread recognition of telecommunications as an essential service, along with gas, water and electricity utilities. And in times of crisis with drought, fire and floods, telecommunications is even more important. Emergency services use a combination of radio and telecommunications to manage their activities and get critical messages out to the community. Restoration of EFTPOS facilities is always a priority to get the community functioning again.

The main Telco carrier NBNCo, along will Telstra and other mobile providers, have hardened up their networks after experiences with the recent spate of national disasters. Time will tell if enough has been done. Cabling, whether external or internal is crucial. A well trained and available workforce is of course a key requirement.

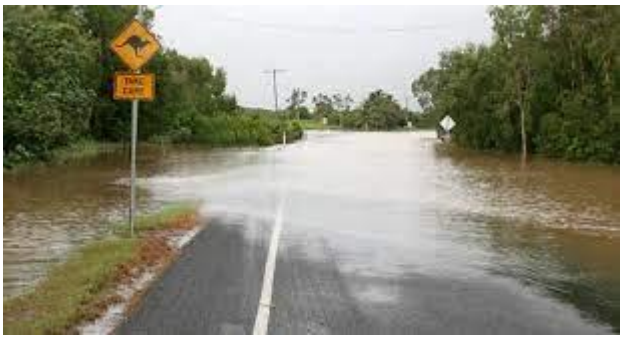
And although some companies in Australia are seeking to fill skill gaps with migrant workers, currently the federal government seems to be doing good things to develop our own engineering and technical capability with significant funding going into TAFE, as well as universities, for science, technology, and engineering courses.

There also seems to be a better Federal and State/Territory approach to short courses and on the job training with some incentives for new entrants in key sectors. CITT, our parent company, has had a role in some of these government funded training projects.

Distribution of funds and management of funding during and after a disaster is always controversial. Various enquiries have addressed commonwealth funding challenges and made a number of recommendations. Recently, ADTIA has been invited to participate in the Independent Review of Commonwealth Disaster Funding Focus Group established by the Federal Government. This is a welcome development to provide a “real world” input.

One of the other concerns TITAB has had recently, has been what happens after the passing of the initial crisis with the extensive remedial work that is involved. We have put out press releases advising customers - with limited success - that cabling should always be installed by an ACMA registered cabler. Sometimes a “cowboy” workforce can take advantage of a crisis to gain undeserved profits.

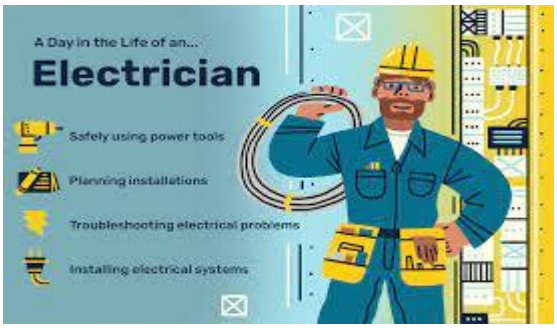
TITAB will continue to work with our industry partners to improve the quality of cabling work and telecommunications generally and promote better training programs and improved opportunities for new entrants by working with the federal and state/territory government agencies. We also need ACMA to upgrade audits and inspections and work better with industry to improve network quality for all of us.



Have you moved or changed your details?

If you have recently moved , changed your email or mobile phone please contact TITAB to update your new details. This will ensure that you receive your renewal notification so you can renew your registration on time.

Both TITAB and the ACMA often receive phone calls from builders and members of the public to confirm if a registration is valid.



I am an electrician, do I need a cabling registration?

Electricians considering undertaking communications cabling work MUST have the relevant qualifications and the appropriate competencies, plus be registered with an accredited Cabling Registrar – before they carry out any endorsements, communications and data cabling work.

In Australia, all cabling work, including telephone, data, fire and security alarm systems cabling that connects with the telecommunications network, must be performed by a registered cabler or under the direct supervision of a registered cabler.

A registered cabler must have completed the relevant training and have the knowledge to complete the work to the required Australian Standards, as set out in the Wiring Rules AS/CA S009.

Cabler registration is overseen by the Australian Communications and Media Authority (ACMA), which is the Australian Government statutory authority that regulates, sets and manages rules about telecommunications in Australia.

Working unregistered can be costly. In some cases it could leave you uninsured as you are working illegally. The ACMA has a range of options available to enforce compliance including infringement notices through to financial penalties.

If you hold an electrical license and wish to find out more about registration requirements, please contact TITAB on 03 9631 0800.

Tool thefts costing Vic tradies $20 million a year

(This article was written by San Williams of the Electrical Connection magazine)

Tool thefts have been costing Victorian tradies $20 million a year with over 29,000 tools stolen in 12 months to March 2023, according to the Crime Statistics Agency.

Trade tools are a prime target for thieves due to their high value and easy portability. RACV general manager home portfolio Darren Turner says there are a few practical measures you can take to make your tools less attractive to thieves.

“In your car, store tools in a heavy-duty truck bed or portable toolbox with a strong padlock. If your toolbox is portable, fix it to your vehicle with a hardened steel security chain,” he says.

“Clearly marking or engraving your ID details on tools will make them much harder for thieves to resell, easier for you to report and recover and more likely to discourage theft in the first place. Your name and driver’s licence number are recommended for the best chance of recovery.”

Tool theft can have a significant effect on sole traders and small businesses. Not only will the tradie have to buy replacements, but they will also not be able to work at full capacity until they potentially spend up to thousands of dollars to replace their tools.

RACV also recommends adding small GPS trackers to your high-value tools so you can track their live location on a linked smartphone app.

“Even if a tradie has insurance cover for their tools, choosing the right insurance is important as it can help to reduce the inconvenience and cost of replacing them,” Darren says.

“Trades-specific insurance from RACV, for instance, can cover tools for loss, damage and burglary. You may also be able to get coverage for your business expenses while your tools are being replaced.

Authority to Alter - nbn policy

The Authority To Alter policy (A2A) of NBNCo is the same as was the case for Telstra.

That is, in the rare case where a device is to be fitted on the customer’s premises, but technically on the network side, the registered cabler can break into the cabling - after advising the customer of the interruption – to fit a device, such as an alarm.

NBNCo have a detailed document on their website (since 2020), as a reference.

Batteries are the environmental Achilles heel of electric vehicles-unless we repair, reuse and recycle them

Written by Mehdi Seyedmahmoudian, Alex Stojcevski and Saad Mekhilef from the Swinburne University of Technology.This article was published in the Electrical Connection magazine)

Electric vehicle advocates say the cars ultimately have a smaller carbon footprint than their fossil-fuelled counterparts and could resolve our energy concerns for good. Well, fair enough, but questions arise when we dig into the inner layers of electrical vehicles and see how sustainable their components are. In fact, the batteries that power electric vehicles may also be their Achilles heel.

Batteries are the most expensive component of an electric vehicle. If the battery pack is damaged, defective or simply old, this can lead to the vehicle being written off prematurely. Tesla is even producing "structural" battery packs described as having "zero repairability".

Increasingly scarce and valuable resources, such as lithium and water, are needed to make these batteries. Despite this, they are often not designed for ease of repair, reuse or recycling. This has significant environmental impacts, ranging from the mining for materials and the water and energy used in making new batteries and vehicles, through to the hazardous waste from discarded batteries.

In other words, the answer to the question of "Are electric vehicles really eco-friendly?" largely depends on how we manage the downsides associated with their batteries. Changes in how we design, produce, use and recycle electric car batteries are urgently needed. These changes can ensure that, in solving the problem of fossil fuel emissions, we also minimise other environmental harms.

Tackle the problems before they get too big

It's important to resolve these issues now, while electric vehicles make up a small fraction of the global vehicle fleet. Even in world-leading Norway, only 20% of cars on the road are electric. In Australia, fewer than 100,000 out of 20 million registered vehicles are battery-powered.

Yet already we are wrestling with the emerging concerns about their batteries. The performance of lithium batteries in an electric vehicle can degrade to 70-80% of its full capacity within six to ten years, depending on the owner's driving routine. At that point, the battery is barely reliable as the main energy source of the vehicle. Repeated fast charging can degrade a battery sooner. Globally, about 525,000 batteries will reach the end of their useful life for powering a vehicle by 2025. That number soars to over 1 million by 2030.

There's life after EVs for batteries

However, the total lifetime of lithium batteries is 20 years. This means the end of a battery's usefulness in a vehicle doesn't necessarily mean it has to be discarded. These retired batteries can have plenty of other uses.

So how much capacity does a retired battery still have? As an example, an energy storage made of five repurposed Chevrolet Volt batteries can meet two hours of peak-use energy demand for five houses. The numbers become even more appealing for Tesla Model 3 batteries, which have three times the energy capacity of the Chevrolet Volt's.

That is a tremendous capacity still available in a retired battery. So why not use that?

And once the battery has reached the end of its useful life, most of the raw materials used to make it can be recovered. It is possible to extract over 95% of the valuable metals like lithium, nickel, cobalt and copper. The European Union already requires electric vehicle batteries to be at least 50% recyclable by weight, increasing to 65% by 2025.

However, the current lack of standardisation of battery packs presents a challenge for battery recycling. There are many different physical configurations, cell types and cell chemistries.

Reuse has a long value chain

The good news is that battery reuse is not a fictional utopia. Carmaker Nissan is already doing it on Koshikishima, an island in south-western Japan. Batteries are recovered from electric vehicles, have their health assessed and then allocated to suitable second-life applications.

These batteries can be reused in a solar farm, as an emergency household power supply, or for an electric forklift in a warehouse. Research shows this repurposing of batteries can get another 10-15 years' use out of them. That's a huge leap towards reducing their environmental impact.

So, who benefits from this scheme? Well, there's a long list.

In the first row, electric vehicles owners benefit immediately if their used batteries can be sold for a good price.

In the longer run, the list of beneficiaries expands massively. Households can enjoy more reliable and cheaper energy simply by charging up their battery storage during off-peak hours for use at peak times when electricity costs are higher. As an initiative in Portugal showed, using repurposed electric vehicle batteries in this way could cut energy bills by 40%.

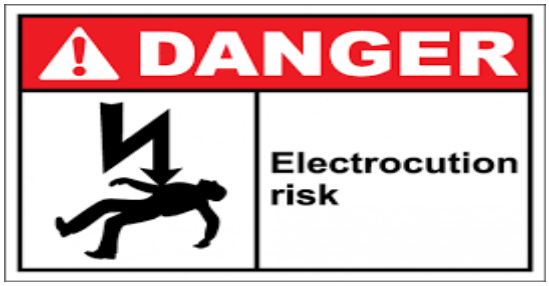
Reusing batteries is good news for the environment. Research suggests reducing the demand for new batteries in this way could cut greenhouse gas emissions from making batteries by as much as 56%.

The long list of benefits of giving electric vehicle batteries a second life, then recycling their materials, is enticing. Given the scale of the potential economic and environmental gains, along with the countless jobs such work can create, batteries could be more generous in their afterlife than in their first incarnation in electric vehicles.

Electrocution prompts strong warning against electrical DIY

(This article was published in the ECD online newsletter dated 11 July 23)

Following an incident in which a man sustained an electric shock while using a makeshift electrical device to create artwork, Energy Safe Victoria is urging the community not to repurpose electrical equipment.



The energy safety regulator has warned that repurposing electrical components for alternative uses can pose a serious risk to people and property.

The incident took place in Ararat on 22 May, with the electric shock leaving the man unconscious. He was resuscitated and stabilised by paramedics before being airlifted to The Alfred hospital.
With the aim of creating a wood burning-etching device, the man had assembled a contraption consisting of a 2200 V microwave transformer, jumper cables and two nails forcefully embedded into a piece of wood soaked in salt water.

The jumper cables, which are typically designed for only 12–24 V, were connected to both the nails and the output of the transformer. The transformer input was connected, via an extension cord, to a power outlet.

Once the power outlet was switched on, an electrical current flowed, energising the jumper leads, the nails and the wood at 2200 V.

Energy Safe CEO Leanne Hughson said the incident served as an important reminder to the community not to repurpose electrical components to create DIY projects.

This incident highlights how dangerous it can be if a person tries to make their own electrical equipment with components in a manner they were not designed for," Hughson said.

For more information, visit www.esv.vic.gov.au.

Fixed Wireless tower network project now complete

Last month NBN Australia completed the installation of 33 hybrid power cubes across regional QLD to ensure uninterrupted power supply to our Fixed Wireless sites during a natural (or other) disaster. This was funded under the Summer Bushfire Recovery Grants Program (BSBR)

This is important for our regional communities, as we prepare our network continuity plans head of the annual emergency season. The hybrid power cubes are hybrid technology power generation units combining solar panels, battery and a compact diesel generator – enabling our Fixed Wireless towers to run for several months without being connected to the power grid.

HELPFUL CONTACTS

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