November 2021

# THE
# TELIT

## The TITAB Cabling Newsletter

TITAB AUSTRALIA

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### Editorial

Previous TELIT editions stressed the need for wider recognition of *telecommunications as an essential service.* More needs to be done to get full "political" and community recognition of the "fourth utility" - water, gas, and electricity being the others.

Other utilities have more stringent enforcement of regulations, including on-site auditing and inspection. In the customer cabling area for domestic and small business in particular, there has been a "hands-off" attitude adopted by ACMA in the past few years.

This has resulted in around 35% non-compliance to technical standards in cabling according to random ACMA audits. There are also some regulatory issues requiring attention in the commercial sector of cabling and equipment provision, with distributed antenna systems, for example.

Cablers in commercial buildings also encounter a range of building construction issues, for example, lack of space for customer equipment and riser cabling and fire stopping in multi-storey buildings; a real risk to safety. Representations to the building codes authorities have so far not yielded results, but we will continue efforts via ADTIA and enterprise representations.

In short, we have cabling regulatory issues in both commercial and domestic environments which need to be addressed.

Where to from here? We need a coherent regulatory system that is monitored and enforced. A "carrot and stick" approach can be used. Self-regulation does not work! Complementing a fair regulatory system, there is an obvious need for training new entrants and retraining many existing workers – not just in telecommunications – and only using foreign skill imports as a last resort

A series of disasters with fire, cyclones and storms, flooding and Covid from late 2019 to the present day demonstrated clearly that telecommunications is a critical essential service.

The communications department is now considering submissions as part of the Review into Regional Telecommunications. This may help planning broadband, fewer mobile blackspots and future 5G installations in regions and remote areas.

Overall, the NBN has worked well during Covid, it is other parts of the network now needing attention. Research from the ACMA in mid-2020 gave us a number of insights into telecommunications in Australia which were not surprising and included:-

- In regional telecommunications nearly all services dramatically increased useage due to Covid and ahead of metro useage

- "Land line" use was declining for all age groups except those aged 75 and over

- Most adult Australians use mobile phones for voice, but more messaging, video calls and apps. than ever

- Zoom and MS Teams grew dramatically and facilitated widespread work from home

- Facebook was the most used social networking app followed by YouTube, Instagram and WhatsApp

More than one in three Australians increased their use of communication, including social networking apps over 2019-20. Social networks are an essential part of human behaviour.

For economic and social reasons, it is essential that we have a well trained workforce and reliable telecommunications; with well managed regulation for now and the future.

## Regional Telecommunications Review

Earlier this month, TITAB contributed to a paper prepared by ADTIA (Australian Digital and Telecommunications Industry Association) that was submitted to a national review by the Communications Department.

The paper set out a number of priority issues affecting regional communities and in particular, pointing out the need for a reliable, fast and economical broadband. And over time, the need for wide penetration of 5G as consumer demands increase, particularly for those now able to work at home in computer-based occupations. Also, some industries could move from Metro to regional centres to get the benefits of cheaper rents and other savings if 5G was available.

## Ceiling Spaces – Danger!

Working in ceiling spaces, as with other confined spaces, can be dangerous if the right precautions are not taken. Power should always be turned off as there are risks with rodent damaged cables and sometimes hazards with foil insulation where staples have penetrated power cable. Torches and cordless tools are an obvious choice.

Among the many hazards in ceilings are:-
- Electrical cables or equipment with poor insulation properties
- Heat exhaustion which sometimes can sneak up on you
- Solar photovoltaic systems supply cables that may be alive during daylight hours
- There may also be asbestos contaminated materials

It usually pays to check with your state or territory safety authorities on safety protocols.

## Smart Wired Homes – Growth Area!

Smart wired home certification applies to telecommunications cablers not just electricians and specialist home automation installers, such as CEDIA members. Home automation requires significant cabling work and many cablers will need to transition to this work in the future.

As part of our membership of the registered cablers website consortium, along with other registrars and the ICAA (International Copper Association of Australia) information is provided on a _voluntary code of practice for_ smart homes and information can be downloaded from the recently updated registered cabler website

www.registeredcablers.com.au/smart-wired/

Information booklets can be downloaded free and include a guide to use with a customer when designing a network and a sample of the label that can be left on equipment at the premises for future reference. By certifying against the code, you are really only abiding by ACMA wiring rules and registration requirements, but the customer knows the job is a "smart wired" trademark installation. To be eligible to sign off on the smart wired home you need to be an open registered cabler with endorsements.

## Phone Scams

Scams target everyone. Scammers use stealth, surprise and clever tactics to get what they want, which may be your money or your personal details. No-one is too smart to be scammed. But, there are things you can do to help spot—and stop—a phone scam.

### Report scams to Scamwatch
If you think you've been scammed, tell your bank and phone company immediately.

### How to spot a scam
Always be wary about any calls or texts that come from people you don't know.

### Scam tactics
Scammers are very sophisticated, which can make a scam difficult to spot.
Scammers may:
-Pretend to be from an organisation you trust and ask for your personal details in a call or a text
-Say that you have won a prize or there's money waiting for you
-Use logos and copy real text messages to look legitimate
-Disguise their number/s, to make it look like they're calling from somewhere local
-Call over and over, making it hard to ignore
-Use 'robocalls' or recorded messages saying your internet will be disconnected and ask for payment or personal data
-Lie and tell you stories, like your computer needs urgent attention
-Act like it's an emergency and tell you something bad will happen if you don't click a link or call a number to check your details

### It's probably a scam if:
-A call or text sounds too good to be true
-Someone you don't know has your personal details
-Your bank (or another institution that you trust) calls or texts you to ask for personal information or money
-You're threatened or made to feel afraid
-Someone asks to access your computer.

### How to protect yourself from phone scams
Remember the rule: _If in doubt, don't._
-Don't answer, don't click on links, don't give personal details, and don't give money
- Don't answer if you don't know who it is. Let the call go to voicemail first. If the caller leaves a number, check that it matches the one on their website
-Don't reply or click on any links in text messages.
-Don't ever send money
-Don't ever tell anyone your personal details—passwords or other sensitive information
- Don't ever let someone take control of your computer

### You should:
-Block callers—your phone company can tell you how
.-On a mobile phone, there may be a setting to block specific numbers
-Use a password on your mobile
-Check text messages carefully. Look for things that don't look right—bad spelling, strange sender name or number
-Put a lock on your home mailbox—this way, people can't steal items that may give information about your identity

# How To Save energy With Fibre Optic Networks?

*(This article was written by Robert Merki (CTO of R&M) and was published on [www.electricalconnection.com.au](www.electricalconnection.com.au))*

When it comes to protecting the atmosphere, FTTH is a good choice. This is because modern broadband provision with fibre optic networks requires much less energy in comparison with other technologies. The carbon footprint speaks for fibre optics.

### Is that a good question?
You will probably ask whether it is really important to examine the carbon footprint of broadband networks. You may be afraid that this is about the greenwashing of a major industry. Rumours are circulating that the Internet and data transmission are climate-damaging energy guzzlers.

As a responsible manufacturer of network technology for broadband service, we have taken a close look at this issue. This is because R&M wants to help minimise $CO_2$ emissions quickly and sustainably. We want to give our customers the best possible orientation when they invest in networks.

Broadband networks are currently being expanded all over the world and many new, extended FO networks are being laid. R&M supports and supplies numerous large-scale projects. That's why the carbon footprint issue definitely plays an important role for us. Current studies and a few facts provide answers.

### To the facts
- Broadband networks require electrical energy. Data does not come into our homes from the cloud under its own steam. Access networks account for 70% to 80% of the power consumption in this sector.
- There are quite a few electrical systems working around the clock between the central office of the network operator and the subscriber. These include routers, switches, and transceivers. All electronic equipment ultimately contributes to the emission of greenhouse gases and must therefore be geared towards energy efficiency.
- Telecommunications services today already consume two to 3% of the energy generated worldwide. Data traffic is increasing, for example, through video streaming, online gaming, and teleworking. Data transmission can account for up to 80 % of the power

consumption of video streaming. People have fun watching YouTube videos or Netflix movies. But it can't be done without electricity.
- The energy efficiency of the various transmission technologies and media (fibre optic, copper, cellular phone networks) differs considerably. There is a big difference between transmitting light signals via fibre optics, transmitting electrical signals via copper cable, or high-frequency signals via an antenna. In terms of data transmission, 1 kg of glass is as powerful as 1000 kg of copper.

> *"This is because modern broadband provision with fibre optic networks requires much less energy in comparison with other technologies"*

based broadband networks (VDSL2 vectoring, super vectoring) consume up to seventeen times more electricity than full-fibre networks. This is according to a report from the German broadband association BREKO from January 2021. The industry consultants at WIK Consult have calculated that telecom companies can save 60% of energy costs by switching off the copper networks.
- One result of the German research project Green Cloud Computing in September 2020 confirms: «$CO_2$ emissions are at their lowest when HD video is streamed to the home via a fibre-optic connection». Each hour of video streaming produces two grams of $CO_2$. The value refers to the effectiveness of the data transmission and the data centre where the video is stored. In the case of copper cables (VDSL transmission), the figure is four grams and for 5G radio five grams of $CO_2$ per hour.

### Clear result
From R&M's point of view, the situation is clear: When it comes to protecting the atmosphere, Fiber to the Home is a good choice.

Anyone who opts for fibre optic networks is opting for the lowest possible power consumption in data transmission and thus the lowest possible $CO_2$ emissions.

Data traffic does not work entirely without electricity. But we can all opt for devices that are as energy-efficient as possible and have a climate-friendly power supply.

In addition, the BREKO study adds the following: Fiber optic networks are more reliable than copper-based alternatives with fewer service interruptions, fewer failures, and lower maintenance costs. This also saves energy.

### One more thing
Fibre optics are, in a way, sustainable by nature. They are made of silicate, which is available in virtually unlimited quantities. The raw material can be extracted and recycled at a reasonable cost. Optical fibres are light and thin. This means they can be transported with minimal effort.

# TAFE NSW Students Being Equipped With Life Saving Skills



*(This article was written by Sean Carroll of the Electrical Connection magazine)*

TAFE NSW apprentices studying Certificates in Electrotechnology, Refrigeration and Power Supply have been given the opportunity to learn invaluable skills in Low Voltage Rescue (LVR) and Cardiopulmonary resuscitation (CPR).

According to Safe Work Australia, on average 11 Australians die each year when working with electricity and the majority of these deaths happen when installing electrical infrastructure.

The training in LVR encompasses the skills and knowledge required for a person to be able to carry out a risk assessment of an electrically hazardous situation and perform low voltage rescue procedures without hazard to themselves or others.

TAFE NSW team leader in electrotechnology, refrigeration and power supply Nicholas Bryant is confident that the skills TAFE NSW is teaching will prevent injury and save lives: "Offering this unit to our students is a measure to protect the safety of students and the people around them throughout their careers.

"You never know when you can find yourself faced with an emergency. The ability to act in that situation and save a life is an invaluable skill that everyone should have and we are proud to offer that to our students."

Kyran Hayman works as an air conditioning and commercial refrigeration electrician at Grafton Air and says it was a no brainer for him to undertake this additional study component as part of his studies.

"My studies are arming me with the real-world practical skills to not only do my job, but to potentially save someone's life," Kyran says.

"We work with dangerous equipment all day and being the first on the scene in an emergency at work means I'd like to know what to do and how to face any situation safely."

The training sessions will take place at Murwillumbah and Yamba CLCs as well as Wollongbar, Coffs Harbour Education Centre and Port Macquarie campuses throughout November, with more locations soon to be added. The units are being offered as optional additional components to their course.

## HELPFUL CONTACTS

**NBN**
www.nbnco.com.au

**ACMA**
www.acma.gov.au
1300 850 115
info@acma.gov.au

**TRAINING PACKAGE**
www.training.gov.au
1800 454 678

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Wiring Rules AS/CA S009:2020

**UNDERGROUND CABLE LOCATIONS**
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**REGISTERED CABLERS**
www.registeredcablers.com.au

**SMARTWIRED**
www.smartwiredhouse.com.au

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https://www.nbnco.com.au/content/dam/nbnco2/documents/authority-to-alter-facilities-on-resdential-and-small-businesses-premises.pdf

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