



WIRELESS COMMUNICATIONS

PROVIDING ESSENTIAL SUPPORT IN BUSHFIRES & PANDEMICS

**2020
ANNUAL
REPORT**

WWW.ARCIA.ORG.AU

NO PLANE TAKES OFF NO SHIP SETS SAIL

NO TRAIN LEAVES THE STATION

*Essential services can't operate
Without a working radio.*

Two-way mobile radio is a unique, interconnected and irreplaceable part of the modern ICT world. It provides secure and reliable wireless communications networks for instant one-to-many voice and data calls over wide coverage areas.

While the radio communications industry itself isn't widely known to the public, every day, millions of Australians rely on the essential services that radio enables. What's more, this "invisible" industry contributes a whopping \$3 billion+ to the Australian economy every year!

ARCIA is the voice of this \$3bn industry in Australia.

Educational seminars, national networking events, position papers to government and industry, training, and career maps for industry talent are just some examples of what ARCIA provides to members.

▶ **Watch our video to learn more about ARCIA and radio communications:**
arcia.org.au/arcia-and-our-members/about-arcia/



Your industry, your association
ARCIA.ORG.AU



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*Our cover image - as the IT world moves
towards 'cloud computing', so too is the
wireless world developing cloud interfaces.*



INDUSTRY OVERVIEW

THE RADIO COMMUNICATIONS INDUSTRY IN AUSTRALIA

The radio communications industry is a vital and essential part of daily life in Australia, but as it happens without people realising it or seeing radio in action, it is often overlooked in importance.

Two critical applications include emergency services using radio communications to protect life and property, and every major resource project in Australia relying heavily on radio communications for their daily operations.

As we look back over the past year we see an unusual scenario; the first part of the year showed great promise — many of our members were seeing increases in their businesses and our Association was exploring new territories — it was *‘all systems go!’*

Then, in the early months of the New Year it all came crashing down. In January, as ARCIA were running a stand-alone Professional Development Training session in Canberra, news began filtering out of China about a new Coronavirus infection.

Little did we realise then just how much our world would change within a few short months.

For many years, humans have recognised that change is the harbinger of both good and bad tidings — that has been the case again this year. The fundamentals of radio communications still exist and as things change, so too does our industry as it adapts to our ‘new normal.’ However, there is still a demand for radio communications and although it might not be as strong in some industry sectors, it will conversely be stronger in others. For this reason, some of our members will have suffered some hardship while others will have been busier than usual. This is a common trait of our industry.

As the voice of the radio communications industry, ARCIA members are heavily involved in providing essential communication tools, from safety communications for paramedical and health support teams for the COVID-19 pandemic, to recreational and industrial users, major resource projects and the mining industry and government and emergency service areas. It is our members who supply, design, install and maintain these necessary communications links — we are the vital support network behind the essential services.

There is no doubt that the radio communications industry is like most other industries — it is the people working in the industry that make it all happen. From engineers to technical apprentices, from management and consultants through to clerical support staff, our industry comprises of highly skilled people from all walks of life. Working away quietly in the background, our industry personnel keep the communications channels open to support the many segments of our great country.

The radio industry offers many different working environments and we offer many essential services to our clients. By giving excellent support and providing strong benefits to our clients, we are a vital part of Australia’s economy. We encourage people to learn more about our industry, as we are now one of the leading proponents of ‘converged communications’ where the communications world merges with the Information Technology (IT) sector. It is the radio communications industry that is moving into the IT world and leading the way with equipment that is IP connected.

ARCIA is continually striving to improve our industry and to enable rewarding careers for the thousands of people who work in the radio communications industry. Over recent years we have seen a trend towards industry requiring high capacity data in their operations. This has brought our Association to the stage where we are now active participants in the ACMA discussions on spectrum for mobile broadband and as a result of ARCIA initiatives, the guidelines for spectrum licencing and allocation are changing to facilitate smaller and private LTE systems. ARCIA will have a role to play in the 5G world.

Radio communications is an exciting and innovative industry, which is growing stronger each year.

This Annual Report gives an overview of our Association and our industry.

EXECUTIVE REPORTS

PRESIDENT REPORT: HAMISH DUFF

Many things that we have taken for granted for some time have been upended by the 2020 pandemic. As it currently stands, we are all hoping that we can get through 2020 and that 2021 brings a new year and a return to some kind of normal. Many people in our industry have been badly affected by the pandemic and while the Association has done as much as we can to help our members, the entire economy has been changed.

I would like to congratulate all those members of our industry — the technicians, installers, engineers, administrators, project managers and sales people — who worked to keep the economy going. Our industry is part of the nation's critical infrastructure, and while often overlooked, we all know that whether it is public safety, mining, utilities, transport or distribution centres, our workforce is there behind the scenes keeping the lights on.

The 2019 Annual Gala Dinner would be the Association's last major event for some time. The event was well attended as always and in general, a great time was had by all. We have been running this event format for some time and we had decided to try something new for 2020. It goes without saying that when we are able to start our regular networking events it will take some time to reorganise, but this is an opportunity to try some different styles.

For 2020 it is clear we won't be having a major event in Melbourne. Once Comms Connect was cancelled — regardless of the situation in Melbourne — the Association felt it would be difficult to get people to travel. At the time of writing the situation in Victoria is worse than anyone imagined and while it will get better by November, it is very unclear. The Association is working on how to have some kind of national event, even if that means limited state events on the same night. The industry seeks to recognise people in the industry at a state and national level and we know that peer recognition is highly regarded. So we need to find a way of continuing this in 2020.

One of the casualties of the situation has been Paul Davis. I would like to take this opportunity to thank Paul for everything he has done for the industry through Comms Connect, indeed he became part of the industry. With events shut down people need to make difficult decisions and we will certainly miss Paul's energy. He has been a driving force in helping to not only bring our industry together, but also to help bring information on important issues like Public Safety Mobile Broadband into the knowledge banks of our industry, as well as our first responders and the bureaucrats involved.

The training plans are really taking shape thanks to the work of Chris Stevens. In association with Comms Connect, the Association has now run many training sessions and they have been well attended across the country. Of course we now need more content and direction to enable a greater number of members and employees to take advantage of industry-based education. While we all understand the program needs to be based on high quality accepted standards, we all feel we simply cannot wait any longer for Government to provide training. With the pandemic in full swing, the Federal Government is trying again to invest in training and ARCIA has written to the Minister for Employment, Skills and Small Business as well as our Communications Minister to try and encourage more support for niche industries like ours.

ARCIA has developed a skills matrix to provide the framework from apprentice to engineer so that our members can look at the various skill sets that the industry needs. The matrix in its present draft form is included elsewhere in this report and we welcome comments and feedback as we develop the skills framework and training to support it. Over time, the Association hopes to fill the gap in training that is not available with content that we develop.

The ACMA has not stopped and there has been a constant flow of papers for comment in many areas of spectrum. Our Association has again put in a huge amount of work responding to the ACMA across the many bands that are being looked at. A consistent theme we apply is that we ask the ACMA for transparency and that spectrum should be used as a productivity tool for the economy. There are many demands on spectrum and in many cases there are competing industry or government users which makes balancing the needs of users a difficult process.

As new technology and spectrum sharing models start to develop across international markets, ARCIA believes that the benefits need to be shared across the economy. As wireless technology for WISP's, Private LTE or IOT transforms the way consumers and industry are able to use spectrum, the wireless industry can thrive.

We also expect to see new spectrum legislation in Federal Parliament during 2020 and ARCIA has met with the Department of Communications to be briefed on the changes to the Act. This appears to us to be evolution rather than revolution and ARCIA does not perceive any real impacts to our industry with these changes. ARCIA has also met with the ACMA over the last months and this has been a productive consultation. We have brought matters to the attention of ACMA and they have responded quickly and effectively on all occasions which is a credit to the ACMA management and also the excellent relationship that Ian Miller has built up over time.

When COVID-19 started to hit our economy and we all went into shutdown, the Association made the decision to extend member and partners renewal dates. We considered this on the basis that our main expenditure item on events would cease and that many of our members would appreciate the removal of even a small financial charge during these uncertain times. The finances of the Association are being maintained at acceptable levels, however we do expect to recalibrate this decision soon so we can be ready for 2021.



**EXECUTIVE OFFICER REPORT:
IAN MILLER**

As we end the 2019-20 year we find most of our states in lock down with tight restrictions on travel between states — something not experienced before in living memory. The COVID-19 pandemic has created many difficulties for Australia and with curfew and travel in Melbourne limited to just five kilometres from your house means that many are suffering, including our industry.

One thing that has again been reinforced is the importance of our industry to the national economy. While some of our members are finding business very slow, others are as busy as usual — indicating how important we are in keeping Australia open and working.

From an ARCIA perspective, our main impact has been on our events program. We were able to hold our Industry Gala Dinner in Melbourne in November, as well as our regular dinners in Adelaide and Perth, although we only just beat the pandemic in Perth. Unfortunately, we felt that the risks associated with the pandemic were quite high so we cancelled the regular dinners in Sydney, Brisbane and Adelaide, and there won't be an Industry Gala Dinner in Melbourne this year. The committee are exploring other options for networking as the pandemic restrictions ease. Our dinner in Melbourne was again a great success with over 400 attendees and the awards were hotly contested.

It is really terrific to see the number of nominations received and the high quality of the people in our industry, we can all feel very proud of our industry and our people.

One of the highlights of the night was an unplanned speech by Justin Lenkovic as part of the recognition of our industry apprentices. Justin spoke off the cuff on his experiences in the industry and he was quite motivated, the audience reacted well to his very genuine pleasure and it was good to see him interviewed in Critical Comms magazine a couple of months later.

Each year the committee holds a session for planning the role of the Association's works over the coming years. This year the event was again held over two days in Brisbane and there were close to 30 people in attendance — a mix of committee, our promotional partners, members from the Australian Critical Communications Forum and our brothers from RFUENZ. Much was discussed over the two days and the main points of action outlined were to continue the Professional Development Training program, prepare a white paper on the transition from LMR to LTE for the future of our industry, and to map out the skills content for the various levels of our industry (this is shown later on in this report). Each of these are critical items for the future of our industry and the time spent is well worth while. We thank all those who attended and gave their time.

One of the continuing areas that our Association must maintain is the relationship with the ACMA, and also to continue to respond to the various issues regarding spectrum as they are raised by the ACMA. As always, we have had multiple meetings with various ACMA personnel during the year and we are always made to feel welcome and that our opinions are valued. We continue to press the ACMA for transparency in their dealings, to recognise the competing demands for spectrum and to try to make our suggestions reflect that position.

The ACMA relationship is crucial to the future of our members and it rates highly in our efforts on their behalf. During this year we have responded to close to ten discussion papers on various spectrum segments from the ACMA.

As we look to the future we can see that our industry will remain viable and relevant for many years yet, and if our members continue to investigate the transition towards LTE then they will remain strong and provide employment opportunities for years to come.

The one change that has to happen in the very near future is to find a replacement for myself as the Executive Officer of the Association. Although I am still coping at this stage, it is now over ten years since I was involved in the industry on a daily basis. We need someone with more current experiences to now take over and grow ARCIA — it is time!



TREASURER REPORT:
ANDREW WYBORN

The Association has once again met all of its financial commitments this financial year and as at 30th June 2020, we reported financial year profit of just under \$80,000.00 for the period 1st July 2019-30th June 2020.

This result bucks the trend somewhat compared to our last four years where we either had a small profit or small loss. The result has been influenced by the COVID-19 restrictions where a number of planned events had to be cancelled.

The total expenses of the Association this year saw a \$70,000.00 decrease on last year's amount to just over \$282,000.00. Again, this result was influenced by COVID-19 restrictions.

The top three expenses for the Association this year are in line with previous years expenditure being:

- Dinner costs of \$137,000.00
- Administration costs of \$53,000.00 and
- Executive & Project Officer costs of \$35,000.00

The new ARCIA website launched this financial year had a cost to the Association of \$8,000.00. The Executive Team is grateful and acknowledges the efforts of all the Committee members who contributed countless volunteer hours into this project, with special mention to Kathryn Millican who managed the entire project saving the Association considerable expense.

The biggest expenditure for the Association continues to be our national events such as the annual Industry Gala Dinner held in Melbourne and our state-based dinners. These expenses once again represented 50% of our costs with many events being subsidised by ARCIA to help our member's network with other radio industry users.

The Association's income was just over \$367,000.00 for the financial year 2019-2020, pretty much the same as last year. What is different from last year is the percentage of income. Whereas we normally see approximately 40% of our income from Partnerships, 25% from Memberships and 28% from Dinner tickets, this year it was 42% Partnerships, 32% Memberships and just 19% from Dinner tickets. Once again, these results have been influenced by COVID-19 restrictions.

With the impact of COVID-19 restrictions on a number of business and the potential cancellation or postponement of the Industry Gala Dinner for 2020, the Executive Team made the decision to temporarily suspend all Membership and Partnership payments. We were able to do this due to the sound finance management taken by the ARCIA Executive over the last few years. Even with the temporary suspension of Membership & Partnership payments, we have a current balance of just over \$164,000. However with the loss of

the Industry Gala Dinner for 2020 and with the temporary suspension of payments, this sum will soon be evaporated unless we keep a firm grip on our expenses.

Finally, may I take this opportunity to thank all of our financial supporters of the Association, as without your generosity we would not be able to function on the scale in which we do.



FINANCIAL YEAR
INCOME



FINANCIAL YEAR
EXPENSES



42%
PARTNERS

32%
MEMBERS

19%
EVENT TICKET SALES

7%
OTHER

ABOUT ARCIA

MISSION

The Australian Radio Communications Industry Association (ARCIA) is an Association representing individuals and professional organisations that provide and support two way radio communication and wireless-based solutions, whose mission is to:

- Promote and foster future industry development and growth.
- Promote high ethical standards of business conduct within the industry.
- Create environments to promote the exchange of ideas among its membership, radio users, industry professionals and manufacturers.
- Provide educational and promotional opportunities to enable its membership to grow and advance professional standards.
- Represent and promote the interests of its membership to the radio user community, manufacturers, regulators, other associations and the media.
- Provide, from time-to-time, specialist services that the membership require to further develop the interests and benefit of the industry.

AIM

ARCIA’s key aim is to actively canvass support and involvement from all sections of the radio communications industry right around Australia in order to become an effective voice on behalf of the industry to the Australian Government and Regulators.

ARCIA also strives to implement diverse, industry-specific initiatives to raise the profile, importance and awareness of radio communications in Australia.

ARCIA aims to reach out to other similar industries and organisations to improve the ability for wireless communications to be recognised as an essential service.

To also support the Public Safety sector with advice and support in their needs to have communications facilities offering the best possible communications platforms.

COMMITTEE

ARCIA is made up of elected Committee and Ex-Officio members who are actively engaged in the Australian radio communications industry. They bring many years of knowledge and expertise to the Association without personal financial gain. ARCIA Committee and Ex-Officio members work on behalf of the Association’s members on issues where they believe the industry should be protected or represented and are re-elected based on their interest to best serve the industry as a whole.

The Association welcomes regular comments and suggestions from its members to ensure the committee continues to fulfil its role. The ARCIA Committee meets monthly to manage, coordinate and implement the Association’s various activities including: Accreditation, Technical and Spectrum Issues, Training and Education, Membership and Events. Each member is involved in various sub-committees to ensure the Association’s goals are achieved.

Nominations for Office Bearers are open four weeks prior to the Annual General Meeting in August each year. ARCIA is keen to represent all sectors of the Australian radio communications industry and encourages all to attend and nominate.

ARCIA ensures it maintains its national representation by offering teleconference for those interstate or in rural areas who are unable to physically attend the Association’s meetings.

COMMITTEE MEMBERS: 2019-2020

EXECUTIVE GROUP

PRESIDENT	Hamish Duff	New South Wales
VICE-PRESIDENT	Brad Welch	Queensland
VICE-PRESIDENT	Glenn Sneddon	Victoria
SECRETARY	Kathryn Millican	Western Australia
TREASURER	Andrew Wyborn	Victoria
EXECUTIVE OFFICER	Ian Miller	Victoria
PROJECTS OFFICER	Geoff Spring	Victoria

GENERAL COMMITTEE

Mark Byford	South Australia
John La Cava	Queensland
Graham Rallings	Queensland
Neil Johnston	Queensland
Phil Dowd	Queensland
John Whittaker	Queensland
Graham McAvinue	Queensland
Chris Stevens	Victoria
David Britt	Victoria
Wayne Turnbull	New South Wales
Trevor Lee	New South Wales
Anthony Beresford	Western Australia

SUB-COMMITTEES

SPECTRUM & TECHNICAL	Ian Miller	Convenor
TRAINING & EDUCATION	Chris Stevens	Convenor
MEMBERSHIP	Graham Rallings	Convenor
WEBSITE	Kathryn Millican	Convenor
ACCREDITATION	Glenn Sneddon	Convenor
EVENTS	Ian Miller	Convenor

EX-OFFICIO MEMBERS

Noel Higgins	Victoria
Jamie Baker	Victoria
David Cox	Victoria
Chris Stapleton	Victoria
Andrew Findlay	New South Wales
Rob Howes	Western Australia
Damian Costello	South Australia
Denis Colbourne	Queensland
Nick Stefanou	Queensland
Anthony Blyth	Queensland



STATE REPORTS

NEW SOUTH WALES REPORT:

Over the last few months the industry in NSW has suffered from the pandemic restrictions like other states.

One of the highlights of the year was the Professional Development Training sessions run in Canberra, in January 2020. Several members from NSW and the ACT participated in this one-day training session and it was great to see the ACMA staff attend as well.

The ACMA continue to see value in engagement with our industry Association and this was confirmed by their attendance and also with the high level of interest in discussions with the ACMA on several topics.

There has been continued engagement with regard to the push to attract young people into our industry. ARCIA members have contributed to this via attendance at Apprenticeship and Trainee Expos, as well as in-school presentations to students from Year 10-12. Two expos were supported this year in Western Sydney and Central Coast. Both were well attended and we continue to see interest from many of the attendees — most of whom have little knowledge of our industry or the careers that we offer.

The NSW 2019 Radio Professional of the Year, Tim Jensen, represented NSW at the annual Industry Gala Dinner in Melbourne. Unfortunately, the restrictions associated with the COVID-19 pandemic meant that both Comms Connect Sydney and our ARCIA annual networking dinner had to be cancelled. It is one of our Association's main aims to improve the networking between members, and the conference and dinner are great opportunities for both networking and education. Hopefully we will have another opportunity later in 2020 to run some form of event in Sydney.

ARCIA continues to work collaboratively with the Comms Connect team and we hope that we can again work together for events in the coming year. The conference offers a good environment for our Professional Development Training sessions and these are now being complemented by the Comms Connect on-line learning programs. We do sincerely appreciate this effort from Westwick-Farrow.

Sadly, Paul Davis has moved on from his position as the Conference Manager at Westwick-Farrow, however, we are confident that the working relationship with Comms Connect Events will continue into the future. Paul has been a valued resource for the industry and he will be sorely missed. We wish him well with his future endeavours!

The New South Wales Committee: Roger Webber, Trevor Lee, Wayne Turnbull and Hamish Duff.



QUEENSLAND REPORT:

The annual Brisbane networking dinner was held on 25th July at Rydges Hotel in South Brisbane and as always it was a great night — the views over the Brisbane River and the city lights are spectacular. Around 80 people attended and the buzz in the room was really high. It is great to see so many people who might compete during the day get together and mix socially in such a relaxed manner.

Similar to the Adelaide dinner, we had two guest speakers with a common theme. Anne Smallwood, the daughter of Alf Traegar of Pedal Radio fame, spoke of her father and the background to his life, as well as what it was like to be the daughter of an inventor in the early twentieth century. The small points were interesting, such as no talking after lights out in the evening, unless you were prepared to converse in Morse code — Anne can still remember snippets and concluded her speech using Morse.

Later in the evening Heather Stott from the Brisbane office of the Royal Flying Doctor Service spoke of the modern service with links back to the points mentioned by Anne in her talk. Heather pointed out that most people were probably carrying references to the Flying Doctor in their pockets — the twenty dollar note has images of the flying doctor in the graphics. After Heather's interesting speech, a fundraiser was run with the table that contributed the highest amount winning two bottles of excellent Queensland wine (yes, they have some very fine wines). The winning table was the Motorola team, the proceeds of just over \$2,000 were donated to the RFDS and it shows how great this industry is to raise that amount of money out of one of our events — well done Queensland.

As part of the evening's program, the Industry Professional of the Year was awarded, with Derm Guerin being the recipient. Derm has a long history in the industry dating from the 1970s when he worked in the Brisbane office of Philips-TMC, then moving to Melbourne as part of the team that introduced UHF CB to Australia. From Melbourne he moved to Sydney as NSW State Manager for P-TMC and finally moved back to his home town of Toowoomba to start Comtel and built the business up over many years. Throughout his time in the industry Derm has been a mentor and trainer for many young people and has always employed and encouraged young people, plus he has been as keen to promote and improve the skills of sales people to continue to grow our industry.

In conjunction with the industry dinner in Brisbane, ARCIA ran a mini-conference during the day with two Professional Development Training workshops as well. The conference program covered a broad range of topics including the 3GPP standard and developments in the mission-critical area and also information from several overseas conferences held recently. The Professional Development Training workshops covered the RF Filtering and Transmitter Multicoupling content similar to that previously used in Melbourne, Perth and Sydney and there were another 25 people who undertook the training course. Again the commitment to training was excellent and the attendees showed a high degree of attention to the content.

During the afternoon a new topic was introduced covering GIS and Mapping Fundamentals — a topic that tends to be neglected and is not properly understood by most in our industry. For a new topic and a first time being delivered, it was comforting to have close to a dozen attendees and the comments on the session were very positive. This will now be repeated in other locations later in the year and it should be kept in mind that this can be necessary information for sales personnel as well as project managers.

Overall, the ARCIA Professional Development Training has now reached 150 attendees in the past twelve months, a great response from industry and users.

Later in the year we participated in a careers event at the Brisbane Conference Centre and spoke to many students about our industry, although we haven't seen any new industry employees out of our attendance it is gratifying to be able to promote our industry to young people who aren't aware of any communications options other than their mobile devices. In February we hosted the annual ARCIA Committee planning days at the Brisbane Airport Conference centre. These are great events and it is really good to see how the Committee and our partners can work together for the benefit of the industry.

Unfortunately the restrictions implemented to try and control the Coronavirus pandemic has meant that the regular Brisbane dinner usually held in late July was cancelled, but we will be back again in 2021 to bring our industry together again.

The Queensland Committee: Gary Botley, John La Cava, Graham Rallings, Brad Welch, Neil Johnson, Graham McAvinue, Phil Dowd and John Whittaker.

SOUTH AUSTRALIA REPORT:

The early part of this year has been another good year for ARCIA in our state and our regular networking dinner at the National Wine Centre is always popular. With that in mind it is disappointing to report that because of the situation with the COVID-19 pandemic we won't be having our regular event in September 2020, but watch this space as we may have an event later in the year.

As part of the ARCIA Professional Development Training program we were very pleased to be able to offer two half-day training sessions as part of our events on the day of our annual dinner. Topics for the training included Lightning Protection and also GIS and Mapping Fundamentals. The presentations were well attended and the content was appreciated by the attendees.

It was very pleasing from a local perspective to see strong support for this training format and we will endeavour to continue to do this in the future as we are able to once again run our regular format events.

One of the regular highlights of the 2019 dinner was the recognition of Stephen Bigg of SA Ambulance as our Industry Professional of the Year. Stephen has a long history in the communications sector for public safety agencies and has contributed over and above his required role to ensure that our local ambulance services have had the best communications systems possible. Stephen also oversaw the merging of the two ambulance services in South Australia into one cohesive service and this was done with little interruption to the vital communications networks.



It was very pleasing to see that as the South Australian representative for the prestigious Peter Wallace award for the national Industry Professional of the Year, Stephen was recognised as the national winner from amongst all of the individual state winners. Well done Stephen, we hope you enjoy your well-deserved retirement.

Looking to the future we are hoping to have a networking event later in the year. This will, to an extent, be determined by the status of the pandemic restrictions in other states. Our state has been fortunate in not being as badly affected as others and this has resulted in severe travel restrictions between South Australia and other states.

One thing we have to keep in mind is that we are all affected by the pandemic and we should all be looking out for other industry members. Our industry desperately needs to hold on to our experienced personnel and we should work together to that end.

Mark Byford.



Stephen Bigg, winner of the SA Industry Professional of the Year award.

VICTORIA REPORT:

As with previous years, our Victorian committee members were active in the planning and implementation of the Comms Connect Conference and Industry Gala Dinner, held in November 2019. Whilst these two events certainly attract the most attention, they are by no means the only areas we have been involved in. Unfortunately, our usual attendance at careers events has been curtailed this year due to the pandemic restrictions.

The Victorian state-based award, the Victorian Industry Professional of the Year, was once again deliberated by the Committee and our popular winner was Kitty Mau from Icom Australia. Kitty has held multiple roles at Icom over many years and is presently one of the dealer managers. Kitty went on to represent Victoria alongside the other four state-based winners being nominated for the Peter Wallace award at the Industry Gala Dinner. The committee again received nominations from people in our industry representing all aspects including sales, service, project management and engineering.

The Victorian Industry Professional of the Year was presented at our Sundowner event held at 'The Rogues Squire' bar in Wheelers Hill with member's enjoying a refreshing ale, snacks and exchanging many tales and catching up with acquaintances.

The concept of the 'Sundowners' is to allow members and radio users to gather for a quiet drink and some light snacks at the end of the working day in a social environment and generally share information.

We are always keen to be involved in industry and community activities, so if you have any ideas on other areas we could be involved in please contact a committee member or get in touch with us through our web site.

The Victoria Committee: Chris Stapleton, Glenn Sneddon, Ian Miller and Andrew Wyborn.

WESTERN AUSTRALIA REPORT:

Like most other areas of Australia, the first part of the year has provided for significant growth in our industry in Western Australia, particularly in the construction and resources sector and associated industries, however once we moved into 2020 things changed due to the health pandemic.

As always, the size of our state and the complexity of environmental factors in Western Australia provide lots of challenges for the businesses that operate here, and their ability to develop an approach to technology that is resilient and reliable.

The hybridised approach to projects is continuing to develop as new opportunities emerge, due to the adoption of new technology in the Land Mobile Radio space.

At the Perth dinner in March, just ahead of the pandemic really causing concerns, Kathryn Millican was recognised as our Industry Professional of the Year. As well as being a very active local representative for ARCIA, Kathryn has been the Association Secretary for the past two years and her change of employment means that she will be lost to the industry in some ways. Kathryn has been a driving force in representing the needs of the local market in national issues, as well as working with local organisations to promote training initiatives. Hopefully as the confusion clears over lock downs and travel restrictions in the Eastern states, Kathryn will join other state award recipients as a nominee for the national Peter Wallace award, acknowledging industry members who proactively contribute to the industry.

Similar to previous the years, training and education continues to be a significant focus for our organisation. There is a need for our skill sets to be recognised by our members and our customers, yet some local training institutions are still struggling to reach critical mass with enrolments and to impart the skills needed to build our resilient communications infrastructure. As part of the ARCIA Professional Development Training program we were able to run two half-day training sessions at our annual event day in March, as well as welcoming Comms Connect back to Perth for a one day conference. This combination of educational knowledge is appreciated by our members and we know it is of benefit to the communications users in general.

With the Australian Oil and Gas conference happening in Perth immediately following the ARCIA events we had a small stand at the exhibition; although not a lot of interest was shown, some enquiries were fielded. We thank representatives from Simoco and Radlink for supporting our stand, as well as Rob Howes who gave two days of his time to be there.

Together we thank members for their support over the past year and look forward to your continued partnership in the coming years.

The Western Australia Committee: Kathryn Millican, Rob Howes, Anthony Beresford.



Kathryn Millican, winner of the WA Industry Professional of the Year award.

OUR WORK

SPECTRUM AND TECHNICAL REPORT

One of the key factors that is recognised by our Association is the high degree of reliance that our industry has on spectrum — basically without spectrum our industry will die.

The importance of spectrum is evident when the activities of our Spectrum and Technical Committee are reviewed each year, and in the relationships we continue to build with the Australian Communications & Media Authority (ACMA), our spectrum regulator and management agency. We also have excellent relationships with the Department of Communications, now grouped as part of the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC).

The ACMA issue ‘discussion papers’ as part of their public consultation process, to give stakeholders an opportunity to be part of the planned changes in spectrum use, and this past year we have responded to about six of these discussion papers, as well as one from the ACCC and another from the DITRDC. This reflects how we see our industry changing in the future.

For many years our members were only interested in the spectrum segments associated with Land Mobile Radio, predominantly the VHF and UHF bands, but we are seeing this changing now. We need to monitor activities in the mobile data spectrum arena as well as watch other sectors of Government for areas that may impact on our members.

During the past summer much of Eastern Australia was affected by major bushfires and happening so soon after significant periods of drought, the outcome has been disastrous. However with the COVID-19 pandemic that followed, the bushfires have taken a much lower profile. The Commonwealth Government instituted a Royal Commission into the disasters, commonly

called the Bushfires Royal Commission. In conjunction with the University Of Melbourne Centre for Disaster Management and Public Safety (CDMPS), the Australian Critical Communications Forum (ACCF) and the International Council on Systems Engineering (INCOSE) we worked on a joint submission. Geoff Spring (ARCIA Projects manager) was the lead author and he was subsequently invited to be a witness at the Commission. Much interest was shown in the radio/wireless communications requirements and also in the future developments of Public Safety Mobile Broadband (PSMB), and it is to be hoped that the outcomes of the Royal Commission findings will open up better communications options for our public safety agencies.

Each year we meet with senior management of the ACMA several times and also have regular contact to raise issues of concern to our members and industry. It is pleasing to note that for many years now we have been accorded much respect from the ACMA and Government, and often they come to us seeking input and opinion on issues and future developments for the spectrum. We are regularly invited to take part in the ACMA Radcomms conference and are recognised by most other spectrum users as promoting sound spectrum management opinions that often help other users to put forward the arguments for their continuing use of various spectrum segments. We believe that many of the user groups who are not as well organised as ours will benefit from us helping to present their concerns and needs.

As always, ARCIA will continue to work with the ACMA and other Government agencies to protect the spectrum and the associated interests of our members. This is an important facet of our role and we will continue to look after the best interests of our members in the related areas of spectrum and technical matters.

Ian Miller, Noel Higgins, David Britt and Brett Comber.

STANDARDS REPORT

ARCIA support standards development through Standards Australia Committees RC004 and RC006. Brett Comber of Schneider Electric is the ARCIA representative on the Committees. Noel Higgins chairs RC006 on behalf of ARCIA and represents the WIA on RC Committees.

The RC004 (Maritime standards) committee is basically dormant except for comments and voting by email to drafts of international standards developed through TC80.

The RC006 (Land mobile and general) standards committee started a project to revise the short range devices standard AS/NZS4268 at a meeting in Melbourne on 26 June 2019. The draft was then complicated by policy issues and matters under the control of the ACMA, so the project was put on hold until October 2020. This is to allow time for the ACMA to:

- Update the LIPD class licence so that it suitably covers all device requirements for each item, including those which will be removed in the AS/NZS standards revision.
- Update the ACMA S162 standard to correct errors which impacted on the revision.

The two ACMA staff on the RC006 committee have since left ACMA, but hopefully their replacements will be able finalise these actions, Bridget Kerans is now revising the LIPD.

Standards Australia policy introduced in 2018 has also precluded the use of the word *compliance* in its voluntary standards — replacing it with the word *conformance*, which is a problem as the ACMA mandates the standards in its compliance regime using compliance levels! An Appendix explaining the ACMA compliance regime is proposed to be added.

Noel Higgins and Ian Miller.

ACCREDITATION REPORT

ARCIA accreditation is a program where ARCIA undertakes a secure and independent audit of the applying radio industry-related business and verifies that the company meets certain trading and company criteria.

The criterion audited includes:

- Quality Assurance process.
- Company structure and ownership.
- Health and Safety processes.
- Training programs.
- References from other companies.
- Company business process, ownership and insurances held.

ARCIA accreditation adds value to the accredited company by providing a level of confidence to prospective customers, project work and tender evaluations.

The ARCIA website publishes a list of accredited members and a brief summary of the company and its line of business. The list can be found on the ARCIA website at the following address: <https://arcia.org.au/arcia-and-our-members/member-directory/>

As of August 2020, there are 27—ARCIA accredited companies. Newly accredited members for the last year include: *Benelec, Acubis, Essential Communications Services and Cubic Defence Australia.*

ARCIA welcomes these companies on board.

Accreditation is reviewed every three years with an audit, and an applicant must be a member of ARCIA to proceed with the application.

Accreditation fees are invoiced annually, along with the ARCIA membership renewals. The separate accreditation component is clearly identified.

ARCIA encourages other companies seeking a level of valuable industry recognition, to contact ARCIA and discuss the accreditation program.

ARCIA Accreditation Sub-committee: Glenn Sneddon, Andrew Wyborn and Chris Stapleton.

COMMUNITY INVOLVEMENT

With the latter part of the year impacted seriously by the COVID-19 pandemic, our community activities have been a little restricted this year.

One of our new initiatives has been to utilise an event ticketing organisation that passes a portion of our ticket booking fees on to create educational opportunities.

Even with the limited number of events that we were able to run this year, we still managed to contribute almost \$1,600.00 to worthy opportunities, including around \$170.00 for indigenous scholarships, \$140.00 for education programs for girls and around \$1,300.00 to a program to provide nutritious food options for school children. We feel that by providing this small percentage of our booking fees to worthy causes is a way of giving back into our communities.

We have continued our ongoing involvement in careers events during the early part of this past year, with events attended in Victoria, New South Wales and Brisbane. In most cases there were more than 1,000 students in attendance at the various events and we find young people are interested in communications, especially when we take them beyond the ubiquitous mobile phone and highlight other communications areas.

One of our previous careers day contacts — Justin Lenkovic — became an apprentice in New South Wales. At the Industry Gala Dinner in Melbourne, Justin spoke briefly about how he is enjoying his time in our industry. Following the dinner he featured in an interview for Critical Comms magazine, well done Justin!

At Comms Connect in Melbourne in November, we again arranged for Gert Jan Wolf to produce a video vlog from the event concentrating on training and the overall attractiveness of our industry for young people, showing how our technologies are leading the way in many respects. This vlog will again be very handy as we talk to students at careers events throughout the coming year.



Justin Lenkovic — Karera apprentice.

MEMBERSHIP REPORT

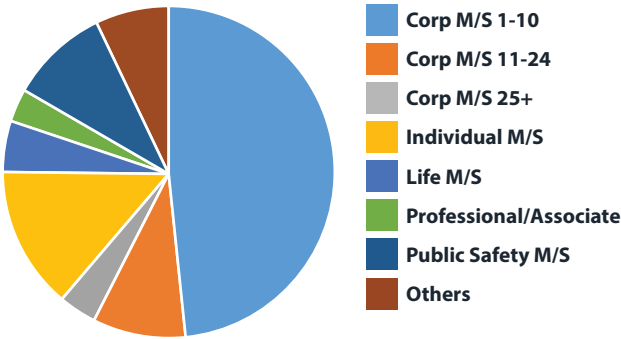
This financial year saw our numbers change from 200 at the start of the financial year, to finish at 194 at the end of June 2020. The changes are reflected in the smaller membership categories where some businesses have either been absorbed into others or have ceased to operate.

JUNE 2020 MEMBERSHIP REPORT	
Membership Type	Membership Count
Associate Membership	2
Corp. Membership 1-10	94
Corp. Membership 11-24	17
Corp. Membership 25+	7
Individual Membership	27
Life Membership	10
Professional User Membership	4
Public Safety Membership	19
Retiree Membership	10
Student Membership	4
Grand Total	194

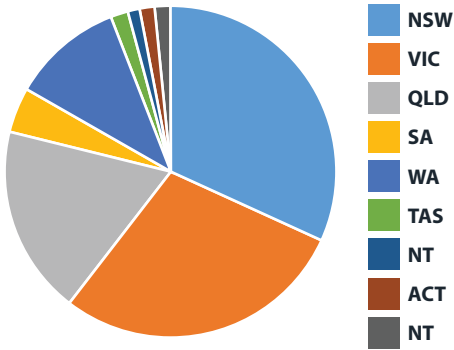
JULY 2019 MEMBERSHIP REPORT	
Membership Type	Membership Count
Associate Membership	1
Corp. Membership 1-10	99
Corp. Membership 11-24	18
Corp. Membership 25+	7
Individual Membership	31
Life Membership	10
Professional User Membership	3
Public Safety Membership	17
Retiree Membership	9
Student Membership	5
Grand Total	200

As you can see above, the ratio of the different types of membership groups has remained relatively unchanged and the Membership Committee would like to thank all the members who renewed their membership; and a warm welcome to all new members. It is with your support that the services ARCIA provide can grow and best represent the Wireless Industry in Australia.

MEMBERSHIP CATEGORIES



MEMBERS BY LOCATION



ARCIA members come from a large number of geographical areas, not just in Australia. We have members from New Zealand, the USA and South Korea. The highest proportion of our members are from New South Wales (32%), closely followed by Victoria (28%) and Queensland (19%).

The ARCIA Membership Committee contributes their time and effort to work on ways to look after ARCIA members to ensure they receive value from their membership of the Association. The current committee is made up of representatives from across Australia; last year's committee was Jamie Baker, Graham Rallings, Brad Welch & Phil Dowd.

ARCIA MEMBERS FROM ACROSS THE GLOBE



LOCATION OF THE MAJORITY OF MEMBERS

32%
NEW SOUTH WALES

28%
VICTORIA

19%
QUEENSLAND





EVENTS REPORT

In keeping with our tradition of fostering a sense of belonging within our industry, ours is an industry that comprises many small to medium enterprises usually operating on their own and with little interface to other like businesses. One of the primary methods of providing facilities to encourage the developing of a sense of belonging has been our networking dinners, which have now grown from a single dinner each year in Melbourne with under 200 attendees, to the present stage with dinners in five locations and over 1,000 attendees in total.

The Industry Gala Dinner in Melbourne remains the flagship event and in November 2019 the event again hosted over 400 attendees from a wide range of sectors within the industry, including many international visitors.

A slight change to the dinner this year was the choice of a guest speaker/MC to talk about market disruption and how our industry needs to look at disruption as a positive emphasis and allow new ideas to grow. It turned out that as a result of several factors, the presentation didn't click with our audience and we will revert back to an entertainment format for the future.

As always the night featured ample time for networking, an opportunity that industry personnel make the most of to catch up and talk to friends and competitors alike.

The recognition provided to industry personnel by the annual awards is always welcome, this year's winners were —

- | | |
|---|-------------------|
| • Professional salesperson | Johan Svean |
| • Customer service | Andrew McGuiness |
| • Technical excellence | Hisham Kubaisi |
| • Engineering elegance | Nick Barratt |
| • New talent | Fraser Hutchinson |
| • Community service | David Cox |
| • Peter Wallace 'Industry Professional of the Year' | Stephen Bigg |

The winner of the Peter Wallace Industry Professional of the Year award was selected from the winners of the individual state awards announced at the networking dinners in Sydney, Perth, Brisbane and Adelaide. These were – Kitty Mau (VIC/TAS), Stephen Bigg (SA/NT), Derm Guerin (QLD), Hank de Jong (WA) and Tim Jensen (NSW/ACT).

Jonathan Livingstone Seagull award

The high point of the evening is the announcement of the Jonathan Livingstone Seagull award, an award that recognises someone from the industry who has achieved much in the industry but in the context of the original book by Richard Bach, has also contributed to the community and not just for their own benefit.

Each year the judging panel review many possible contenders and this year the award was made to **Connie Taylor**, a popular choice. Connie has worked with many industry partners over the years and is well respected by all who know her. In addition to her industry role, Connie also runs a not-for-profit organisation to raise funds to support teenagers who have cancer or who are affected by close friends/relatives with cancer. *Well done Connie!*

Unfortunately, because of the restrictions on public gatherings due to the COVID-19 pandemic, our Sydney and Brisbane events for this year have been cancelled, as will the Adelaide event usually held in September. We are hoping that we will be able to manage some form of annual industry events later in the year, although both Comms Connect conferences in Sydney and Melbourne have been cancelled.

It is pleasing to note that our networking dinners in Brisbane, Adelaide and Perth continue to be well attended and industry personnel enjoy a night of friendly and enjoyable entertainment, and our choice of premium venues means that our industry personnel can enjoy locations that perhaps they would not normally frequent. The theme of our events seems to be 'tonight we collaborate— tomorrow we compete' and this is a good attitude for our industry for the long term.

Details on our events are always available on our website: www.arcia.org.au



Connie Taylor, winner of the Jonathan Livingstone Seagull award.



TRAINING AND EDUCATION REPORT

Over the past twelve months the Training and Education committee have continued to focus on creating a strategic pathway for industry training. However due to COVID-19 we have been extremely hampered with training and education delivery.

This began at Comms Connect Melbourne in November, with the delivery of a new Professional Development workshop in Grounding and Earthing Principles. This was delivered by Kaine Mulder from RFI. Chris Stevens from CartGIS also delivered GIS and Mapping Fundamentals for Critical Communications.

ARCIA continued to run Professional Development Training workshops before restrictions came into force. We were fortunate to get a large turnout in Canberra for three workshops in Multicoupling, Earthing, and GIS and Mapping Fundamentals in late January. Additionally, were able to deliver two workshops in Perth in March — Earthing and GIS and Mapping Fundamentals — that were equally as well attended. ARCIA has now delivered workshops to over 200 participants over the last 24 months. The uptake by the industry has been extremely overwhelming, which has proved there is not only an appetite for training but also a need.

The success of the workshops to date would not have been possible without amazing industry support. We sincerely appreciate the support of Steve Jacques and his management team from RFI, as well as Mark Mezzapica (Chief Technology Officer, RFI Wireless) and Kaine Mulder (RFI Product Manager). RFI's support, dedication, experience, and knowledge has singlehandedly ensured the success of these workshops. Also, a thank you to Chris Stevens from CartGIS for the delivery of the GIS and Mapping Fundamentals workshops. We encourage all industry members to attend coming workshops.

The ARCIA Committee agreed to releasing a Strategic Intent for Industry Education and Training. This document will guide the future pathways for the industry. This document was released at Comms Connect in Melbourne in November 2019 and is also included in this Annual Report as a constant reminder of the way ahead for our industry training needs.

At the Brisbane planning days earlier this year the Committee created an "Industry Skills and Training Framework". Initially this framework focuses on technical positions and provided a matrix of the various skills requirements for industry technical professionals, starting at apprentices and installers and extending through to engineers. The framework has identified training and education requirements respective to the desirable skills and can be used as a guide for many technical staff to increase their own skills levels in areas seen as being representative of our industry. This framework will henceforth guide the delivery of training and education with a focus on university, vocational and certified training programs.

Chris Stevens

The skills matrix is included in this report on page 32 >>



STAKEHOLDER ENGAGEMENT

ARCIA engages with its members and industry interest groups throughout the year using a variety of different channels. We use mediums that are relevant, appropriate and that best allow our stakeholders to engage with us.

Our website

The Association’s website www.arcia.org.au is the main channel in which members and industry groups engage with us about our membership, Accreditation Program, events, news and other interest areas. We have our new website operating now to reflect the ongoing developments both within the industry as well as in the support offered by ARCIA.

LinkedIn

Another main avenue in which ARCIA seeks to engage with stakeholders is through the LinkedIn group called the [Australian Radio Communications Industry Association](#).

The group is growing daily and serves as a great medium for stakeholders to share information with each other as well as the Association. At the end of the fiscal year, ARCIA had over 1,380 members in this group, and it is a valuable resource for promoting ARCIA events.

ARCIA also has a LinkedIn ‘Company’ page and there are 830 members on that medium.

This gives industry stakeholders the chance to connect with ARCIA and others in the industry on LinkedIn. Just login and search for the [Australian Radio Communications Industry Association \(ARCIA\) Company page](#) or [group](#).

Twitter

ARCIA’s Twitter account is used to further our engagement with stakeholders.

Our @ARCIAorg account has close to 400 followers and we are following around 200 other ‘Twits’.

All interested parties can follow ARCIA using the handle @ARCIAorg and continue the conversation with us by including the hashtag #radiocomms in their tweets.

Other mediums ARCIA uses to engage with stakeholders:

- Association and industry news
- Monthly eNewsletter
- Regular member announcements
- Email, phone, mail and Skype
- Face-to-face meetings and teleconferences
- Regional networking events
- Our annual report and surveys
- Digital media and print including industry magazines
- Industry events including Comms Connect and our national industry dinners and networking events.

GET INVOLVED

ARCIA is seeking interest from members of the Australian radio communications industry who would like to join ARCIA state representatives in NSW, QLD, SA, VIC and WA to form state working groups.

ARCIA is also interested in hearing from those who would like to represent the radio communications industry in TAS and NT or those who would like to join one of the Association’s sub-committees.

As you have read in this report, state representatives and sub-committees play a major role in managing, coordinating, implementing and promoting the Association’s various activities and initiatives such as the Accreditation Program, Technical and Spectrum Issues, Training and Education, Membership, Events and other areas that best serve the industry as a whole.

By joining a state working group or sub-committee, you will contribute to having a beneficial effect on the industry at a local and national level. Your knowledge of and commitment to the Australian radio communications industry will be well regarded and any amount of time you can dedicate to your involvement with the Association will be recognised.

To get involved, contact a state representative directly or email us at info@arcia.org.au

CONTACT US

- GENERAL

info@arcia.org.au
- EVENTS

events@arcia.org.au
- SPECTRUM & TECHNICAL

technical@arcia.org.au
- ACCOUNTS

accounts@arcia.org.au
- HEAD OFFICE

9/21 Huntingdale Road, Burwood,
Victoria, 3125 Australia

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2019-2020

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Design by Lumo Design and Marketing – lumodesign.com.au

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INDUSTRY SKILLS & TRAINING FRAMEWORK MATRIX

TRAINING ACTION PLAN (DRAFT): ARCIA Planning days skills level discussion Revised June 2020

This was as a result of a group session on defining skills and job roles across several positions critical to our industry. This session was intended to determine how someone’s qualification could be assessed and verified, based on levels, skills or categories, and to then give an outline of the training content that may need to be developed by industry.

WORKER ROLES	DESCRIPTION OF WORKS	SKILLS
Radio Communications Apprentice — 1st year	<ul style="list-style-type: none">• Basic safety awareness• Workshop duties, learn basic workshop skills• De-installation of mobile equipment• Cable termination• Mentoring• Learn basic cabling (like Cert 3 in cabling — old Austel training)• Attend appropriate TAFE schooling• Other works under direct supervision of a suitably qualified person, including basic radio programming skills using existing config files• Business principles	<ul style="list-style-type: none">• RF Awareness• Basic Electronics course / Automotive Accessory Fitters course• Workshop skills, drilling, cutting, metal work etc. Soldering skills,• Computer literacy, workshop admin like job cards, time sheets, etc.• Basic electronics course• Workshop basic skills including antenna and cable testing, SWR tests, etc.• Show a desire to learn <p>Requirements necessary at end of year:</p> <ul style="list-style-type: none">• Work Health & Safety basic induction white card• First aid — Level 1• Electrical safety, familiarity with batteries and solar panel basics• ARCIA Code of practice for installations
Radio Communications Apprentice — 2nd year	<ul style="list-style-type: none">• Equipment programming and setup, small item manufacturing (mounting brackets etc.), hands on experience• Start in infrastructure installations• Basic fault findings• Opportunity for tower work and use of EWP’s in a support role• Building of skills from 1st year, vehicle installations, assembly / cabling of racks, continuation of TAFE schooling• Basic IP networking knowledge	<p>Skills from previous level, plus:</p> <ul style="list-style-type: none">• RF Awareness & how theory relates to everyday functions• Some understanding of vendor and third-party training programs• Wants to learn more and undertakes some extra-curricular training• Relate fundamental theoretical knowledge to practical workshop roles <p>Requirements necessary at end of year:</p> <ul style="list-style-type: none">• Understanding of antenna theory and design• Working at heights certification — basic level• Radhaz certification, understanding of JSA forms and ‘tool box meetings’, understanding of hierarchy of hazards and the procedures involved• Understanding of IP networking and address fundamentals
Radio Communications Apprentice — 3rd year	<ul style="list-style-type: none">• Servicing, mobile installations, supervised site works• More in-depth programming capabilities• Fault diagnosis of infrastructure systems• Customer interaction• System configuration, development of basic config files, system commissioning / fault finding under supervision• Develop basic RF transmission knowledge	<p>Skills from previous level, plus:</p> <ul style="list-style-type: none">• IP Skills — manually configure IP network addresses & develop understanding of networking via IP• Customer service skills• RF Systems and multi-coupling• How to test and configure a radio• Knowledge of basic test equipment• Basic knowledge of ADR relative to vehicle installations• Antenna physics with regard to more complicated coupling systems• SWR test gear or antenna analyser

WORKER ROLES	DESCRIPTION OF WORKS	SKILLS
Radio Communications Apprentice — 4th year	<ul style="list-style-type: none">• Same as 3rd year, but more advanced• More autonomy in systems and fault-finding procedures• Field diagnostic work without direct supervision	<p>Skills from previous level, plus:</p> <ul style="list-style-type: none">• Basic fault finding• Understanding of the radio industry, ACMA licensing and the parameters involved• Drivers licence• Identification of Mobile LMR/Cellular/GPS antennas, sub-bands and best practice installation and tuning <p>Requirements necessary at end of year:</p> <ul style="list-style-type: none">• Restricted electrical licence• Restricted cabling licence and endorsements
Radio Communications Trades Assistant — Level 1 or Technician / Installer	<ul style="list-style-type: none">• Same skills levels as 1st and 2nd year apprentices require (hopefully to achieve the same skill sets through workplace learning)• Also to acquire most of the skill sets required by 3rd year apprentices, but not within the same timeframes as the apprenticeship programs	As per 1st, 2nd and much of the 3rd third year apprentice skills
Radio Communications Trades Assistant — Level 2	Same skills levels as 4th year apprentices	Requires to achieve the balance of 3rd year apprentice skills and also then the skill sets of 4th year apprentices to become qualified at technician level
Radio Communications Technician — Level 1 Bench Technician & Mobile Installer Communications	<ul style="list-style-type: none">• Unsupervised field service and installation, workshop installations, variety of vehicles, electrical system understanding and basic test gear• Trades assistant focus mainly on vehicle style installations• Loads radio programming files into portables and mobiles• Installation of mobiles into vehicles including installation of antennas onto vehicles• Install and de-install mobile radios including DC and RF components.	<p>Skills from previous level, plus:</p> <ul style="list-style-type: none">• Automotive Accessory Fitters / Auto Electrician course• Automotive basic electronics course, DC 12/24V systems• Risk Assessment, SWMS and documentation• Work Health & Safety courses• Working at heights• First aid course• Workshop basic skills• ARCIA code of practice for installations• DC fundamentals• Cable termination• Understanding of many vehicle types ADR• Antenna physics
Radio Communications Technician — Level 2 Field Technician	<ul style="list-style-type: none">• Independent system and equipment fault identification and repair (with external input)• Any technician must be capable of field and bench work!!• Design and implementation of simple systems• Bench repair, radio configuration• Loads radio programming files into portables and mobiles• Installation of repeater hardware including combining, power and earthing. Local commissioning of the system including sweeping of antenna’s and feeders.	<p>Skills from previous level, plus:</p> <ul style="list-style-type: none">• Certificate III Electronics & Communications or equivalent• At least 2 yrs experience after apprenticeship in the field / bench• Analogue systems fundamentals• Digital systems fundamentals• Interfacing 3rd party products i.e. Omnitronics, MotoTrbo• System fault finding• DC power systems / solar• Supervision skills basics• Basic RF filter fundamentals and antenna’s• RF fault finding radio’s / small systems• IP networking skills• Customer service skills basics• 4WD driving course• JSA, WMS, and WH&S documentation• Remote area transportation• Earthing best practice• Radio software• Vendor specific training as applicable

WORKER ROLES	DESCRIPTION OF WORKS	SKILLS
Radio Communications Technician — Level 3 Senior Field Technician	<ul style="list-style-type: none">Independent system and equipment fault identification and repair without external input. More complex test equipment and fault-finding techniques.Higher level of design and implementationHigh and low speed data linksField installationSupport and repair (systems)Create radio programming filesCreate fleet mapsSystem configuration (example configuring Tier 3 node)Installation and commissioning of IP back haulInstallation and commissioning of power systemsSystem commissioning and fault rectification	<p>Skills from previous level, plus:</p> <ul style="list-style-type: none">Certificate IV Electronics & Communications or equivalentVendor specific skillsSpectrum analysis, interference mitigationAdvanced IP Networking, routers, multicast, unicast, UDP/TCP analysisLive system management (working under pressure)Contractor management (Safety and quality)IP Skills and Router skillsFault findingIdentify issues in networksPMI'sRecognised levels 1 and 2 skills plusIdentification of Site LMR/Cellular/GPS antennas, sub bands and best practice installation and tuningACMA spectrum bands, LMR licence types, power level application and best practice site implementationARCIA code of practice for the interconnection of Air Band & LMR systemsRF filters and multi-coupling best practice installation and tuningRF System EngineeringIP Skills basic i.e. Routing etc.4WD basics / advanced coursesR63 Industry best practiceEarthing practicesAt least 5+ plus years in RF Systems
Engineer — Communications Networks and Systems	<ul style="list-style-type: none">Planning, design, configuration of communications networksIP System integration and larger system design and commissioningSystem equipment designAs above but including the construction of towers and masts. Complex & large (heavy) antenna installations.Provide designs for radio networks and systems. Commissioning and integrate system to ensure they meet standards. Liaise with 3rd party suppliers (backhaul). Develop maintenance and servicing procedures.	<ul style="list-style-type: none">Designing RF systems on towersUnderstanding of LMR RF specifications and RF protocolsPath loss, propagation studiesUnderstand the customer requirements and transfer them into a suitable solutionOverview and understanding of all technologiesVendor product specificationsRadio system architecture including combing and earthing systemsRadio power system designDesign backhaul systemsUnderstanding the OSI seven-layer modelEngineering qualification / recognised degree in Australia

WORKER ROLES	DESCRIPTION OF WORKS	SKILLS
Engineer — Spectrum	<ul style="list-style-type: none">Planning and managing spectrumRF designLiaise with the ACMA, apply for licences, analyse intermodulation and interference as part of licence application. Liaise with RF and system engineers. Design certification of systems.	<ul style="list-style-type: none">Formal accreditation (like ACMA)PropagationRegulationsRF prediction modellingIntermodulation analysisRadio propagationSoftware tools applicationAbility to register with the ACMAVendor product specificationsRadio system architecture
Rigger — General	<ul style="list-style-type: none">Steel Jockey, see next sectionThere is a difference between work at heights (roof work) and tower workCabling of fixed base sitesCable terminationCertified to work at heights & rescue proceduresInstallation of antenna's, support brackets and feeders on existing towers / building roof topsInstallation of earthing systems	<ul style="list-style-type: none">N/ACable termination and standardsWorking at heightsTower rescueRope skillsCable termination skillsBasic mechanical skills
Rigger — Towers	<ul style="list-style-type: none">Telco rigger, Radhaz awareness, antenna placement, cabling, connectorisation, 4WD safetyInstallation of tower mounting frames, antennas, coax feedersMaintenance of antenna networksTower construction (mechanical)	<ul style="list-style-type: none">Identification of system type, typical antenna placementWorking on site with other systemsSafe work at heights, tower rescueRadhaz management and documentationAntenna alignmentRigger (Basic)EarthingMechanical structural understandingProject managementFollow construction drawingsTower footings construction

The above skills level will be utilised to determine the training needs required for the radio communications industry. It is envisaged that training will be in the form of —

- Professional Development Training** for many of the enhanced training needs, delivered in a combination of face-to-face training at venues like Comms Connect, plus web-based training through webinars available through an ARCIA Skills Training Program and also other acceptable providers.
- Dedicated training modules** for the apprentice training needs, these will also be by a variety of resources including web-based and workplace base options.

Where possible, skills level records should be maintained to promote the mobility of skills throughout the industry, plus also to help determine appropriate compensation levels within the industry.

