Infrastructure Audit Report

FIRST NATIONS MEDIA SECTOR 2022

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FIRST NATIONS MEDIA AUSTRALIA | ALICE SPRINGS, NT

Acknowledgements

First Nations Media Australia acknowledges the Country on which this report was created, in particular, the Arrernte people in Central Australia where our head office is based and pay our respects to Elders past, present and emerging.

We thank our members and the broader First Nations media sector who have contributed significant time resources and expertise throughout this audit process. We recognise the specialist knowledge shared and thank them for their trust and collaborative spirit in dedicating energy to this project, particularly during a time of increased media pressure resulting from the COVID-19 pandemic and extreme weather events. While we all work in different ways and different places across Australia, it is important to work together toward innovative solutions for the challenges faced by our media industry. We thank you for continuing to share this vision.

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Background

First Nations media in Australia has a 40+ year history of progression responding to community demand. However, the industry has not been embedded in Government policy over the past twenty years, contributing to a stagnant funding environment which has hampered industry development since the mid 1990s. First Nations media has a strong and proud history. Elders and trailblazers fought hard to establish First Nations media organisations to ensure that culture, language, law and stories were represented. First Nations Media acknowledges the many ways in which Commonwealth and State/Territory governments have supported the industry to carry that legacy forward over 40+ years. However, government policy and funding has not kept up with changes in the sector.

First Nations media provides an essential service with public value in an environment of market failure and has received ongoing funding support on this basis. The sector is supported by approximately $21 million in funding annually. Operational funding is currently provided to First Nations media organisations through the Indigenous Advancement Strategy (IAS). The funding level for operations has remained virtually unchanged since 1996 despite numerous reviews (*Digital Dreaming Report, 1999; Review of Australian Government Investment in the Indigenous Broadcasting and Media Sector, 2010; More Than Radio – A Community Asset, 2017)* encouraging the Government to increase this base level of funds. One review, conducted by the then Department of Communications, Information Technology and the Arts, acknowledged the static funding level as problematic, but rather than increasing the level of funding instead recommended reducing services, resulting in the discontinuation of funding for television and other media forms in 2006.[1]

Responsibility for all video related costs was diverted to the Indigenous Broadcasting Program and used to support the establishment of NITV. However, audience demand for remote television news and online services has seen media organisations continue to generate content despite significantly constrained capacity.

Indigenous broadcast services receive approximately 75 per cent of their funding through the Department of Prime Minister & Cabinet and an additional 8 per cent from other government sources.[2] Government funding has been supplemented by sponsorship and social entrepreneurship income sources. Over the past 15 years, economic pressure has resulted in shrinking sponsorship income. Unlike other community broadcasters, Indigenous licenced radio stations have not been able to turn to their audiences for financial support. Membership/subscriber revenue for Indigenous stations is just $1 per member (on average) as compared to an average $38 per member across the wider community broadcasting sector, with audiences for some licence types (fine music/educational) paying up to $66 per member to support their preferred station.[3] Societal and socio-economic pressures mean that First Nations broadcasters can't supplement other revenue streams in this way.

[1] Commonwealth of Australia, *Report on the Review of the Indigenous Broadcasting Program,* Department of Communications, Information Technology and the Arts, May 2007
[2] Social Ventures Australia, *More Than Radio – a community asset: Social Return on Investment Analyses of Indigenous Broadcasting Services*, 2017
[3] Ibid.

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Demand and competition for operational funding has also increased with significant increases in the number of broadcast services (stations and outlets) over the past 25 years. In the past decade, the lack of CPI increase has meant a loss of around $4million to the sector in real terms as the cost of power, equipment, wages, copyright licence fees and other operational expenses has increased. For example, the operating costs of transmission sites (electricity and lease expenses) increased 49.6 per cent between 2011-12 and 2015-16 across the community broadcasting sector.[4] The stagnant funding pool has increased pressure on reserves, resources and personnel, limiting the capacity of First Nations media organisations to absorb income shocks, or address arising opportunities.

In 2015-16 a sample group of 31 Indigenous licenced radio stations surveyed reported collective income of $11,230,451, an average increase of 36 per cent over the five years since 2011-12. However collective expenditure levels for the same group of stations amounted to $12,052,982, an increase of 69 per cent in the five years since 2011-12 and an income to expenditure percentage of 107 per cent. It is also worth noting income levels for rural and remote radio stations actually fell by 7 per cent between 2007-08 and 2015-16, while stations in metropolitan and regional areas experienced some income increase, but not enough to keep pace with rising operational expenses.[5] These statistics demonstrate an unsustainable trend in income to expenditure levels. This is further compounded by limited opportunities for First Nations broadcasters to grow their self-generated funding capacity.

In no small part, the lack of funding indexation or Government incentive to meet communication needs for First Nations communities has been influenced by a lack of empirical evidence to demonstrate need. This has created a 'chicken and egg' scenario with a lack of resourcing available to undertake industry-wide data research and a lack of data constraining attempts to access resources. Through the Coalition of Peaks and Government commitments in the National Agreement on Closing the Gap, attempts are currently being made to disrupt this cycle.

Meanwhile, First Nations media outlets have been innovative through necessity, using whatever resources they could access to create a viable, informative and essential industry. Professional Aboriginal and Torres Strait Islander career broadcasters are now strategically placed throughout the mainstream media creating their own legacy, while in the cities, major regional centres and remote Indigenous community-controlled media is the main source of information for First Nations communities and people.

This Infrastructure Audit seeks to identify best practice for meeting community information needs through media. It queries First Nations media organisation's capacity to meet audience demand across all media formats and recommends actions to address key tensions in infrastructure reliability, capacity and sustainability. It considers efficient investment options to update key technologies, and support requirements to ensure First Nations voices can be heard as broadly as possible under existing levels of service provision.

[4] Survey Matters, *Financial Health of Community Radio Survey,* Community Broadcasting Association of Australia, October 2017
[5] Ibid

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The Infrastructure Audit was funded by the National Indigenous Australians Agency as part of the Government's COVID-19 response, seeking to identify potential issues in distributing pandemic-related essential information to First Nations communities. It responds to a recommendation from Hugh Watson Consulting in its *Renewing a Vital Indigenous Voice and Community Asset – The Indigenous Broadcasting and Media Sector* report (February 2021) that "the NIAA, in collaboration with the Australian Communications and Media Authority, First Nations Media Australia and the Department of Infrastructure, Transport, Regional Development and Communications should undertake an infrastructure needs survey and cost analysis for an infrastructure upgrade program." First Nations Media Australia was tasked with carrying out this research in partnership with industry. First Nations Media Australia notes the report also recommends that "Government should provide funding to support the development and administration of an annual survey of media consumption and communication preferences of Aboriginal and Torres Strait Islander audiences" – an action that aligns with the National Agreement on Closing the Gap commitments mentioned above.

The broadcasting, media and communications sector is undergoing significant technological change and disruption. Internet based broadcast and media technologies, as well as new media devices for listening and watching are dramatically changing the media landscape. The First Nations media industry is growing and transforming in response to these major changes and the changing requirements of their audiences to access essential information. Similarly, audiences are becoming more digitally connected. First Nations peoples need to be connected and empowered as both producers and consumers of locally relevant media content in the digital age.

First Nations media is evolving from its community broadcasting origins into an expansive and convergent industry. While broadcasting remains the core media activity, the industry has diversified significantly and embrace all the mediums and platforms used to communicate, connect and share knowledge; radio, film, TV, print, online and mobile.

Responding to a call for action

In 2018 the First Nations media sector agreed on 9 priority calls for action, including Call for Action #6 to upgrade broadcasting and digital infrastructure to meet current industry standards and work health and safety requirements.

Broadcasting, transmission and digital networking equipment has not been upgraded in a coordinated program since the rollout of the Indigenous Remote Radio Replacement (IRRR) project in 2007-2009. Without resourcing for a maintenance program and increased pressure on operational funds over the past twenty years, broadcasting facilities in many remote communities are no-longer compliant with workplace health and safety requirements.

The Commonwealth provided $2.05 million as part of its COVID-19 emergency response to help address the most urgent repairs required to keep services on air. However, a targeted broadcasting, infrastructure and digital network upgrade program is needed to bring First Nations media services up to industry standard. A lack of funding for capital equipment and/or repairs and maintenance

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programs over the past 15 years has hampered the First Nations broadcasting sector's capacity to migrate to new IT based technologies.

In 2020, First Nations Media Australia secured a small amount of funding through the Community Broadcasting Foundation to support 5 Remote Indigenous Media Organisations to install remote monitoring systems to reduce travel requirements for tech support and identify issues from broadcast hubs. This type of technology had already been self-funded and installed by QRAM and TEABBA.

To spite these recent steps forward, the industry is merely addressing issues that have been well overdue for repair. Contingency funding for equipment damaged by extreme weather events, ongoing wear and tear from exposure in harsh climates, vandalism and events like lightning strikes has not been available since 2015/16. Further, measures to protect equipment that is operating currently or to undertake maintenance services has been subsumed by other operational priorities, such as rising electricity costs. Meanwhile, broadcast technology has continued to progress through increased focus on IP network technologies and broadcast software systems.

In 2014, the Indigenous Remote Communications Association (IRCA – now First Nations Media Australia) conducted an audit of Remote Indigenous Broadcasting Services (RIBS), noting a failure to meet workplace health and safety requirements in many instances. Inadequate building conditions, including a lack of toilets, lack of climate control (air conditioning) for personnel and equipment, lack of security measures for remote studios and a lack of IP networking required to reliably connect remote studios with their hub organisations were identified around 19 of the 103 RIBS audited. These sites were identified as requiring significant repairs and maintenance works in 2014.

On behalf of the industry, First Nations Media Australia has been calling for an investment of $2 million annually to address and maintain infrastructure upgrades. To date, a one-off investment of $2 million has been allocated. This Infrastructure Audit seeks to establish best practice responses to the sector's call for action.

Methodology

First Nations Media Australia gathered a small team of two researchers to gather and analyse broadcast equipment information from First Nations media organisations across the country. The purpose of the audit is three-fold:

1. To establish an industry benchmark for broadcast technology requirements;
2. To share technology information across the sector, supporting First Nations Media Australia to provide guidance on technology decisions for its members, such as playout systems, consoles, identification of technical expertise across the sector, opportunities for bulk purchase discounts and responses to future technology trends; and
3. To identify efficient investment solutions for potential funders.

This audit has built on the data collected from the 2014 IRCA review of RIMOS & RIBS and expands the research to include urban and regional media organisations to provide a sector-wide overview of current infrastructure needs at each location. It is expected that the specific requirements will vary at

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each location. While FNMA has a broad view of the needs across the sector, the collaborative picture of the specifics of each organisation will result in better capacity to recommend bulk purchases of key equipment, project planning for technical installations in different regions and centralised technical support through the peak body for the rollout of infrastructure upgrades. Minimum standards for workplace conditions are ensconced in OH&S requirements, however minimum industry standards for transmission hubs and IP implementation needs the establishment of an industry benchmark.

Gathering data

Over a seven-month period, the project team:

a) Identified First Nations media organisations to contribute to the audit;
b) Collected current Asset Registers and compiled current equipment information on 'Smartsheets' as a shared resource for contributing media organisations and FNMA to collect and update equipment information (note this same system was used for the 2014 RIBS audit);
c) Desk research pairing licensing information publicly available through the Australian Communications & Media Authority (ACMA) with self-reported information from media organisations; and
d) Conducted phone, video and in-person meetings with individual media organisations to review and complete information that may not have been represented on Asset Registers (due to age or value) to fill out Smartsheet data gathering processes.

This process required a significant level of engagement with media organisations to explain the purpose of the audit and provide clarity on the use and visibility of data collected. Information sheets were provided to 38 organisations, as per the example attached as Appendix A.

A project briefing was provided via telepresence to 20 media organisations on 29th September and discussed at a RIMO Manager's meeting on 7th October. Between 30th November and 15th December, project staff held online discussions with Wangki Radio (Fitzroy Crossing), 4RR (Charleville), 2CUZ (Bourke), Wilcannia River Radio (Wilcannia), Radio MAMA (Geraldton), MOB FM (Mt Isa), NIRS (national), Koori Radio (Sydney), 4US (Rockhampton), 2TLP (Taree), Hopevale RIBS (Hopevale) and TSIMA (Torres Strait). Further, over the course of the project period, project staff visited Cherbourg Radio, Wangki Radio (Fitzroy Crossing), 6PRK (Halls Creek), Waringarri Media (Kununurra), 6DBY (Derby), Goolarri Media (Broome), Pilbara and Kimberley Aboriginal Media (PAKAM), Radio MAMA (Geraldton) and Noongar Radio (Perth) in person to review current infrastructure. COVID-19 related travel restrictions impacted the project team's capacity to travel interstate during the project period. Instead, phone consultations were scheduled to allow appropriate engagement in the research process.

There were some sensitivities around the sharing of individual organisation information, particularly where it related to workspaces which might not meet OH&S requirements, to navigate. Project staff were careful to balance transparency with individual media organisations with broader sector objectives, ensuring each organisations' data Smartsheet was visible only to itself and FNMA. The Smartsheet workspaces produced will continue to be accessed and updated as an ongoing resource for media organisations and FNMA. They include information relating to transmission sites, studio sites and building infrastructure.

Examples of questions the audit considered include:

- How old is your transmitter and its brand?
- Are you reaching your full licenced area/broadcast footprint?
- Are your studios meeting industry standards?
- Is there regular maintenance scheduling?
- Is there a need for an equipment upgrade in the near future?
- Do you have internet connectivity and how well is it working?
- What type of software are you using for playout systems and/or editing programs?

Collecting this information required several discussions with representatives from each media organisation, usually including management and technical staff. It also required a significant level of data entry and analysis to identify the age, brand and function of each equipment type and to ensure equipment location was accurately recorded and to input ACMA data to the Smartsheet records. Smartsheet workspaces were cross-referenced with media organisations for accuracy and currency.

Barriers

During the initial stages of the project, engagement with members was challenging due to busy schedules and media being occupied by snap COVID-19 related lockdowns. Understaffing and time schedules made it difficult to book appointments with management as well as finding the availability to work with technicians who were in a better position to provide the information for the project, this meant that some of the information was not gathered until the last weeks of the project.

COVID-19 has been a barrier for the sector and members. New South Wales faced large rates of community transmission in succession to the challenges Victoria faced with long lockdown periods in 2020 and 2021. For example, Gadigal Information Services, home of Koori Radio in Sydney was challenged by a long lockdown and crisis interventions similar to Melbourne during the project. This meant that staff were not able to work on site to support management with their asset register and data collection for the project.

Remote and regional communities were also forced to go into lockdown across Australia which meant staff were required to make plans to close their organisations at the end of November and early December prior to Christmas holidays as well as work the challenges of dealing with community and family transmission, quarantine and organising material and emotional support for community members.

In the initial project plan the team were scheduled to travel to work with members on site if they needed support to refresh or develop their asset registers and collect other data. The border control and quarantine measures were another barrier for the team to travel as well as the health risks associated with travelling through airports and communities meant that that most of the project was facilitated remotely.

The timeline of research for this project to be completed conflicted with the AGM season (November), followed by end of year wind-up and holidays (December-January) to be undertaken became a barrier when operators are frantically completing for AGM's and end of the year festivities, including holidays. Project staff worked closely with some organisation to gather

data through conversation due to time constraints and a lack of equipment registers at some organisations with very small staff teams. These discussions were helpful in raising awareness around staff and volunteer numbers and training and employment opportunities to qualify experts in management, broadcasting and technical services across the sector.

Data storage

During the rollout of this project members received an information sheet explaining that all of the data collected through this audit will be stored on Smartsheets – similar to a password protected online Excel sheet.

Each organisation has a Smartsheet that is managed by FNMA and accessible to the relevant media organisation to view and/or edit as required. The data provided is shared with FNMA but is not visible as raw information to any other organisation. It will create an online back-up for the asset register and a record of equipment accessible for organisational purposes anytime moving forward.

Aggregated data is available to Government departments, agencies and stakeholders. Individual organisational information won't be shared, but the collective story the data tells overall will be publicly available through this report.

Sector representation

This Infrastructure Audit included licenced, First Nations community-controlled media organisations, primarily focused on radio broadcasting. While the First Nations media sector includes print and television media services, this audit focuses on organisations who receive operational funding support for broadcast services through the National Indigenous Australians Agency (NIAA). It is not limited exclusively to the FNMA member organisations who make up 66% of the sector, and excludes the independent filmmakers, website and online media distributors who also form part of FNMA's membership and the First Nations media industry.

38 organisations were invited to participate in the Infrastructure Audit. Five opted not to participate: CAAMA (Alice Springs), QRAM (Far North Queensland), TEABBA (Top End NT), First Nations Broadcasting Australia (Darwin) and Tjuma Pulka Aboriginal Media (Kalgoorlie) citing reasons of mistrust in the peak, concerns about intellectual property, the process and/or the Government and in some cases, time pressures which prevented participation. Four were unresponsive during the project period: ARDS/Yolngu Radio (East Arnhem Land), Wujal Wujal RIBS, PY Media (APY Lands) and Ngaanyatjarra Media (WA desert regions). Some data regarding licence-types and RIBS locations was still valid from the 2014 RIBS audit and has been included in relevant sections of this report. The remaining 28 organisations, representing 74% of targeted media services fully participated in the audit, contributing their equipment and infrastructure information and dedicating time and resources to data collection and analysis processes.

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Contributing organisations and their base locations include:

ICTV – Alice Springs / remote communities
National Indigenous Radio Service - national
PAW Media - Yuendumu
3KND - Melbourne
Gadigal Information Services / Koori Radio - Sydney
Wilcannia River Radio - Wilcannia
2TLP - Taree
2CUZ - Bourke
BIMA / 4AAA - Brisbane
Us Mob Cherbourg Radio - Cherbourg
4MOB – Mt Isa
My105FM - Mackay
4RR Bidjara Media - Charleville
4K1G - Townsville
4US – Rockhampton
Bumma Bippera Media – Cairns
TSIMA – Torres Strait
Hope Vale RIBE – Hope Vale
Umeewarra Media – Port Augusta
Radio MAMA – Geraldton
Ngaarda Media – Roebourne
Noongar Radio – Perth
PAKAM – Pilbara & Kimberley
Goolarri Media – Broome
6DBY – Derby
Wangki Radio – Fitzroy Crossing
6PRK – Halls Creek
Waringarri Media – Kununurra

Policy framework

First Nations media exists due to the failure of mainstream media to adequately reflect Aboriginal and Torres Strait Islander people in news and public discourse. First Nations communities were first granted community broadcast licences in the 1970s and 1980s as a policy response to the lack of opportunity for Aboriginal and Torres Strait Islander people to have their voices heard in media outlets.

This imbalance in participation in the media still permeates Australia's media landscape today. First Nations broadcasting and media has a vital role in providing balanced and culturally appropriate reporting in order to promote awareness and understanding among non-Indigenous Australians, participate in the truth-telling process, encourage participation in democratic processes and promote reconciliation. In this way, First Nations news reporting *is* public interest journalism and needs to be supported as professional media outlets.

Any consideration of public interest journalism must include the need for a diversity of media that provides a full range of news, comment and opinions from mainstream and minority groups. The role of the Aboriginal and Torres Strait Islander community media sector (radio, TV, print and online) is a critical component of that diversity within the Australian media landscape. First Nations media is an essential service. Its practitioners are professionally trained to act as a key conduit for information relevant to communities across the country. First Nations broadcasting and media provide a voice for their communities. They are uniquely placed to hear and share communities' strengths, priorities and concerns. In providing news and information to a community, they provide the community with the information they need[6].

[6] https://www.irca.net.au/about/social-value-study-2017

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Indigenous media does more than distribute news. It serves as a community forum that can help reinforce cultural values and languages. Ultimately, it holds the potential to reaffirm an Indigenous community's identity. - Native American journalism scholar, Bryan Pollard[7]

First Nations media organisations address a market gap through providing essential information to many remote communities not serviced by any other form of media. This includes the dissemination of vital emergency, health and government information. In 82 regions across the country, First Nations radio is the only radio service available. In a further 16 locations, First Nations radio is the only local service available, in addition to ABC services retransmitted from other regions. Indigenous Australians have relatively low digital inclusion and it has not improved in recent years.

From this perspective, First Nations media organisations must be equipped to be a community forum and to effectively service their community's information needs by meeting evolving audience expectations.

Best practice

First Nations media organisations must serve their communities. In an era where media delivery is both fragmented and convergent, this means being in all the spaces that audiences expect to access content. Radio stations are now expected to be 'more than just radio' by audiences, funders, content-maker and marketing platforms. The era of media convergence has made it easier for First Nations radio stations to produce and deliver content across a range of platforms. Therefore, in addition to providing 24-hour radio services, First Nations radio stations are producing an average weekly total of 30 hours podcast content per week, 209 hours of video content and 51 hours of online only content sector-wide.[8]

Increasingly, radio stations are using social media functions such as Facebook Live as audience engagement tools to highlight outside broadcast activities or live to air studio events. However, this type of content is largely used as a promotional tool to draw audience attention to FM/AM broadcast services. The radio sector is working hard to use new platforms to maintain and grow radio audiences. Growing audiences for both community and commercial radio where free-to-air television has dropped is proving these methods successful. However, while 95% of Australians own a radio, ownership of radio at home is falling, down from 67% to 60% between 2018 and 2020. Radio use in cars remains stable. Meanwhile, audience engagement with podcast formats is increasing with 20% of adults listening to an average 4.4 hours of podcast material each week.[9]

Online global platforms have significantly changed the way audiences interact with media content. In 2020, nearly all Australian adults listened to audio content from a radio and music streaming service,

[7] B Pollard 2020 https://www.americanindianmagazine.org/story/Indigenous-media
[8] Survey Matters, Community Broadcasting Sector Programming & Community Development Census, CBAA, June, 2017
[9] ACMA, Trends in Viewing and Listening Behaviour, 2020 https://www.acma.gov.au/sites/default/files/2020-11/Trends-in-viewing-and-listening-behaviour_ACMA-consumer-survey-2020.pdf

spending an average 13.3 hours per week streaming.[10] Radio stations are no longer audio producers only, but media organisations producing multi-platform content. This has impacted infrastructure, training requirements and workloads in a way that some First Nations media organisations have been able to absorb, while others need additional support. Social media content requires camera equipment to produce and in-studio video streaming is becoming increasingly common for audiences to view online. Podcast content increasingly includes a visual component, requiring camera equipment and incurring data costs for video streaming. The production of multi-platform content and social media publishing takes additional time and skills which are not accounted for in the operational funding provided to First Nations media organisations but must be done to meet audience expectations and maintain community relevance.

To meet the needs of Aboriginal and Torres Strait Islander audiences, each First Nations media organisation must have infrastructure capacity to:

a) Broadcast live from their studio hub with access to modern, functional equipment;
b) Have a minimum of two working studios to undertake training, repairs and maintenance work without downtime for live broadcasting and accompanying capacity to reliably respond to emergencies, or in the remote setting where dual studios is not possible, a spare set of hardware that can be swapped out across the network while repairs are undertaken;
c) Have a production studio facilitating the production of sponsorship announcements and other revenue source activities for the organisation;
d) Maintain functionality of transmission and studio sites through:
    a. the availability of replacements equipment as backfill during downtime for repairs and unforeseen outages;
    b. generators and reliable Uninterrupted Power Supply (UPS') to address power failures;
    c. Appropriate weather protections for local conditions; and
    d. a regular maintenance schedule.
e) Reach all communities they are licenced to broadcast to. Many services do not have transmitters that match the scale of their broadcast footprint due to the operational costs incurred in running a higher watt transmitter;
f) Conduct outside broadcasts;
g) Create podcast and video content;
h) Distribute multimedia content online through social media and station websites, including the digital connectivity to upload audio/video files;
i) Provide radio streaming and time-shifted access to broadcast content online;
j) Ongoing access to optimal and geographically relevant broadcast spectrum;
k) Capacity to respond to emerging technologies such as digital radio; and
l) Meet all OH&S requirements for safe workplaces.

There are over 230 radio broadcast sites operating across Australia, coordinated by 35 licenced, community-owned, not-for-profit organisations. They broadcast within community broadcasting guidelines through these platforms:

[10] ACMA, *Communications and Media in Australia: How we watch and listen to content,* 2020, acma.gov.au/publications/2021-06/report/communications-and-media-australia-how-we-watch-and-listen-content

- 157 stations broadcasting on FM
- 4 stations broadcasting on AM
- 13 broadcasting via VAST satellite, in addition to FM services.
- 5 metropolitan services broadcasting via DAB+, in addition to FM services in Sydney, Melbourne, Perth, Brisbane and Darwin.
- Almost all offer online streaming via a dedicated station website.
- Many offer on-demand content either through the station's own website, or Soundcloud or podcast sites.
- 26 stations can be streamed via the indigiTUBE website and app. Some stations also have their own application or use the TuneIn or iHeartRadio apps to reach audiences.

Our desk research found that while media organisations such as Goolarri Media Enterprises and Brisbane Indigenous Media Association provide excellent examples of using and adapting to available technology to meet audience demands, no media organisation currently meets all of the above points required for optimal continuity of services *and* audience engagement.

Analysis

Following the collection of raw data regarding equipment, building and connectivity infrastructure, the project team undertook a process of:

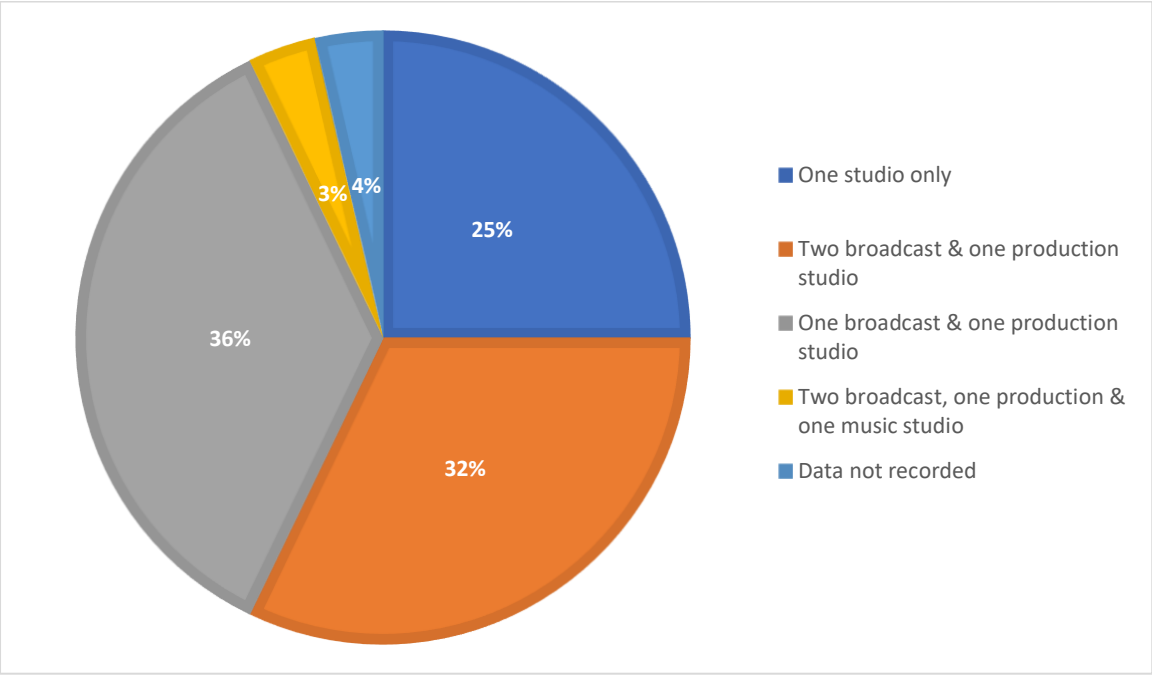
- Defining and validating data collected;
- Identifying common themes; and
- Understanding the strength and weaknesses of each organisation from this data and how it shapes the operation and reach of the service to the community and what future broadcasting could look like.

In considering the equipment data collected, researchers broke down components of the broadcast chain by location, connectivity and media format, finding varying results in each area as outlined in this section. There are significant gaps in the quality and durability of equipment and infrastructure in the sector. A key theme shows the disparity in availability of staff and volunteers which not only depended on location but also training opportunities. These challenges lead to a 'make do or band aid' approach to repairing equipment and covering station workloads especially during peak times and emergencies. Each area is explored in the following sections.

Radio Studios

- Objective 1: Broadcast live from their studio hub with access to modern, functional equipment
- Objective 2: Have a minimum of two working studios to undertake training, repairs and maintenance work without downtime for live broadcasting and accompanying capacity to reliably respond to emergencies.
- Objective 3: Have a production studio facilitating the production of sponsorship announcements and other revenue source activities for the organisation.

Only 35% of media organisations currently have the number of operational broadcast studios to facilitate continuous broadcast services and revenue source/content expansion activities.



Each First Nations Media Organisation should be able to broadcast from a live /on air studio and have a second on air studio for interchange between programs plus production studio or studios. The minimum requirement is two on air studios, with a production studio and workstations for editing and uploading content (sponsorship, podcasting, news production). However, this isn't always possible or feasible in the Remote Indigenous Broadcasting Service (RIBS) setting where a workable alternative could be a set of replacement hardware to be used across the RIMO's network interchangeably.

From the data collected from the 28 organisations that participated in this audit, ten organisations have an on air and production studio. Depending on the software used in the on-air studio (studio one) there will be a voice recording and tracking capability for pre and postproduction. Most on-air studios will have a general business computer for internet and scripting/ plus an on-air playout system separate for broadcasting.

Four organisations have one on-air studio used for both broadcasting and production. Three Remote Indigenous Broadcasting Services (RIBS) have an on-air studio on site with a playout system or space for laptop connection for pre-produced content. Without all the Remote Indigenous Media Organisations (RIMO's) participating in the audit it was difficult to assess if retransmission sites were being used for transmission only with content played off a server to their communities or if they were fitted out with a studio with a play out system or some form of on-air capability. The network broadcasters tend to have a home facility with two studios or more and their connecting RIBS may have the one studio and the more remote facilities may just have a laptop bringing down the station via VAST then sending to a small transmitter.

We found that nine organisations have two on-air and one production studio. This allows for switching over between programs and a smoother set up and program preparation time for broadcasters and their guests and represents industry best practice.

The challenge for broadcasters going forward is deciding whether they need to spend a lot of money creating a sound proofed studio or going down the cheaper path of selecting specific podcaster

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equipment. Music recording facilities are useful for community engagement and revenue raising but are not deemed essential for broadcast at this time.

Recommendation 1: All stations are equipped with two broadcast studio facilities and one production studio facility.

Outside Broadcasts - radio

- Objective: All media organisations should have capacity to conduct outside broadcasts.

82% of media organisations have infrastructure facilitating outside broadcasts away from the base studio location.

Media outlets are encouraged to take advantage of local events and broadcast on site. To meet the needs of Aboriginal and Torres Strait Islander audiences, each First Nations media organisation should have an OB kit that is easy to transport and set up. These events keep the community engaged and showcase the work of their people and broadcasting network. Outside broadcasts provide a platform to members of the community who might not have a voice otherwise.

This programming is an important way of connection for First Nations media and the broader community. A good example of this on a large scale is Gadigal Koori Radio broadcasting Yabun on January 26 live to air on radio working in partnership with NITV for a television broadcast.

Twenty-three of the 28 organisations researched do have equipment required to conduct outside broadcasts (OB'S). Most portable set ups include a laptop, Tieline/Codec technology with a small audio mixer and other studio equipment such as microphones and headphones. One organisation reported that they were not able to afford the insurance premium to hold an outside broadcast and were also not able to afford the equipment to broadcast off site.

Some of the larger organisations are using Apple Mac and iPad for their OB's while a majority of organisations are using PC's with Behringer, Rode and Sennheiser microphones being the most popular choice for their kits and in studios.

A majority of the organisations have portable recording equipment for interviews on the field. Zoom H6/H2N and YELLOWTEC are popular as high-end field recording equipment although expensive. These can also be synced for film and TV and provide a better quality of audio for atmosphere and producing soundscapes and features.

Mobile journalism (MOJO) is still popular and easier for broadcasters to use due to cost, availability and easier to carry. This format is broadly used by remote and regional broadcasters. Mobile journalism is encouraged in education for students learning journalism and media. Rode has developed microphones for mobile journalism and are being used widely across the First Nations and broader community radio sector.

All broadcasters audited see value in community engagement via outside broadcasts and can put together equipment when required. That is, when required they can put together the equipment needed. While this is functional, it places additional wear and tear on studio equipment being used and returned to the base studio and additional time requirements for each broadcast event.

Seven of the organisations audited had a vehicle that could be used for outside broadcasting (OB's) and community events, providing a best practice example of a high visible and versatile broadcast unit that is efficient for outside broadcast use (containing its own studio set-up and often power-supply) without straining infrastructure and human resources.

Recommendation 2: All First Nations media organisations be resourced to establish a functioning outside broadcast unit best suited to their local broadcast activities.

Podcasting

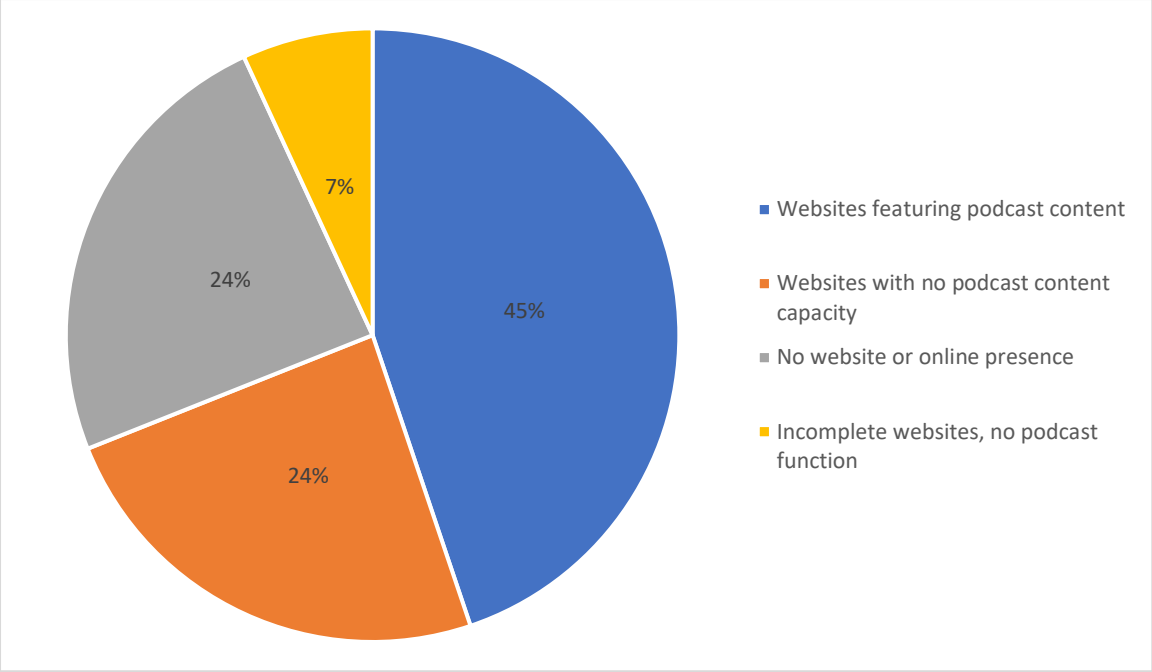
- Objective: All First Nations media organisations can create podcast and video content.

45% of participating organisations currently have infrastructure capacity to record, edit and distribute podcast content via a dedicated station website.

First Nations media organisations must have capacity to produce podcasts and load content and programs onto their website and social media platforms. Podcasting gives content a broader reach for audiences who can't listen to live programs but can download at their convenience. It provides a platform for more creative broadcast and feature production and can be used to push content and be shared in community and across the network as well as being kept for digital archive.

An industry standard or benchmark to aim for with podcasting equipment currently is a Rodecaster Pro Podcast Production Studio. The broadcaster uses Bluetooth to bring in phone calls for telephone interviews for pre-recorded and live programs. This equipment become popular during COVID-19 lockdowns as many broadcasters were not able to work on site. For organisations that don't have production studios these portable production studios are good for small editing booths or spaces in a smaller station that have makeshift production spaces.

During COVID-19 lockdowns broadcasters without access to home studio equipment used mobile journalism (MOJO) kits to record phone or field interviews and edit with the free Audacity software available. Soundcloud is a popular platform to load podcasts but requires listeners to have an account. Twelve of the audited media organisations are regularly distributing podcast content via Soundcloud. indigiTUBE does not require an account to access content but does not yet have the same audience engagement reach as comparable mainstream platforms. Broadcasters uploading content from home computers or phones presents challenges for editing and internet speed. Media organisations with no dedicated website and data limitations face distribution challenges for podcast content.



Recommendation 3: All First Nations media organisations are equipped with mobile journalism kits and functional websites featuring local editing options.

Software

Some organisations reported that they use Audacity software for audio editing because it is free, although it does not have markers for editing which is an important function in program and content production. More experienced editors can navigate this software but it is not ideal for producers in training. Adobe Audition and older Cool Edit platforms are still in use in some locations.

The industry standard software currently supported by the Community Broadcasters Association of Australia CBAA and Community Media Training Association CMTO is the use of Hindenburg Pro for multitrack editing and journalism. This platform has the capability to send data to the organisation's website as a podcast. At approximately $25 per month per licence, the cost of using this software across multiple workstations presents as a financial barrier for smaller First Nations media organisations. There is potential to negotiate group discounts to access this software across the sector.

There is an array of play systems employed by the industry: Simion, Radio DJ, Jazler, Rivendell, Encodad, Zetta, Zara Radio, Station Playlist. Most of these systems require an annual fee after purchases of each licence. Stations require licences for each studio, plus any computers used for outside broadcast purposes. Two playout systems, Jazler and Rivendell were noted not to carry an annual subscription fee once initial licence purchase made. While Zetta is emerging as a preference, our research did not return a current industry preferred playout software solution.

Recommendation 4: FNMA should negotiate a bulk rate licence fee for Hindenburg Pro and all media organisations should receive funding support to access this editing software.

Screen media

- **Objective:** All First Nations media organisations can create podcast and video content.

54% of audited organisations have video production capacity, of which it is notable that seven of these organisations are located in Western Australia. Several of the stations have developed a more professional approach to video making and do use it for their social media while others may have a video camera with editing software for productions. However, many organisations with video equipment expressed they weren't using the equipment enough or needed training in editing and content presentation so they could produce video content. Changes to the funding of screen media content described in the background to this report have also impacted organisational capacity to make best use of existing video production equipment.

There is crossover between the organisations who do not currently have podcasting capacity and those who do not have video production capacity. A majority of organisations expressed a desire to do both. Best practice would be that all organisations had the capacity to produce audio and video on demand and be able to share their content across the network.

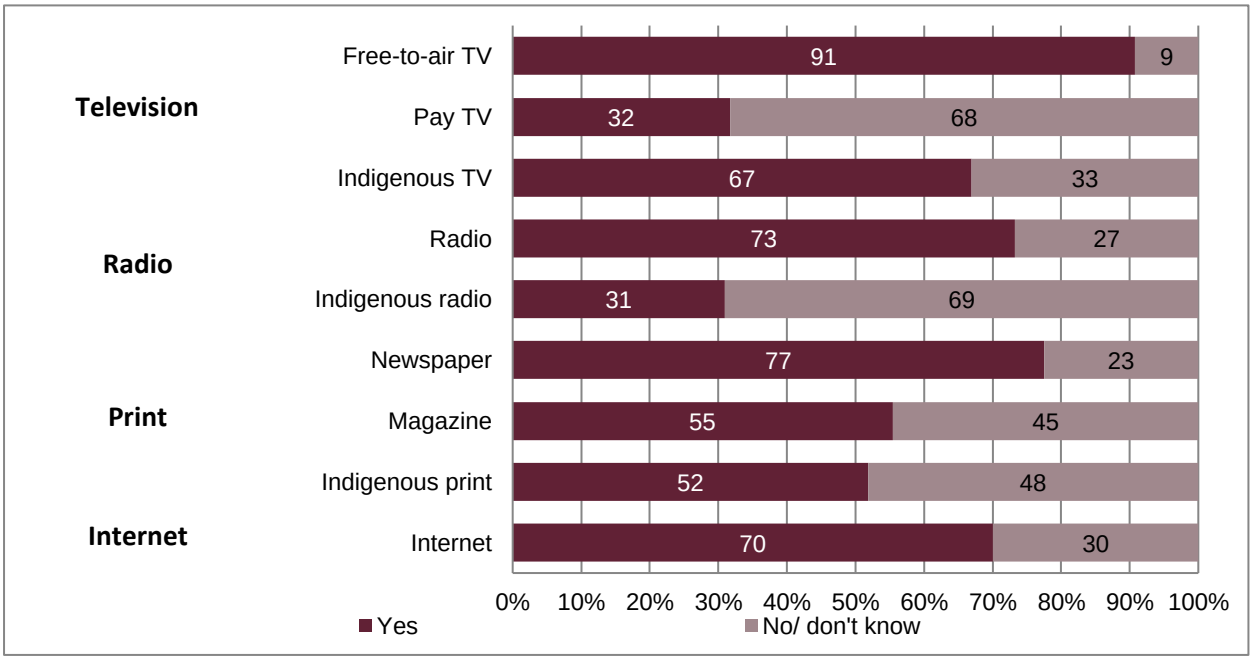
ICTV Play broadcasts online one minute behind their terrestrial broadcast time and includes content from other organisations such as Goolarri Media Enterprises. In this way, it provides content sharing opportunities and with funding support could broaden its reach to mainstream communities.

Australian Government research commissioned in 2014 found television consumption was found to be high among First Nations audiences with 91% of remote respondents reporting that they watched ICTV in the previous four weeks, 89% of all respondents watched NITV and 32% reporting that they had watched subscription television over the same period. Those who reported watching free-to-air television mostly watched commercial television channels such as Seven (76%), Nine (75%) and Ten (59%) to a lesser extent.

Consumption of Indigenous television stations and programs was found to be high, with over two thirds (67%) of respondents reporting that they watched at least one Indigenous station or program in the previous 4 weeks.[11]

[11] Department of Finance, Media consumption and communication preferences of Aboriginal and Torres Strait Islander audiences, *Australian Government,* September 2014, p.5

Figure 1 Media preference among Aboriginal and Torres Strait Islander audiences[12]



There is a need for a filming /tv production studios in all organisations as multi-platform journalism provides a quality resource that is also inclusive for people with different abilities when accessing content. However, this goes hand in hand with a lack of screen content production funding available to the industry.

Recommendation 5: All First Nations media organisations are equipped with at least one video production kit (which includes: camera, tripod and field recording equipment).
Recommendation 6: That the Commonwealth reinstate funding for community-based screen content production, in addition to audio content production funding currently provided.

Websites & Streaming

- Objective: All First Nations media organisations can distribute multimedia content online through social media and station websites, including the digital connectivity to upload audio/video files.
- Objective: All First Nations media organisations can provide radio streaming and time-shifted access to broadcast content online.

71% of audited organisations have functional website that serve audience needs.

Any business should have and should maintain a dedicated website to connect with online audiences. Media organisations should be able to upload content and display multimedia formats on their web pages. Having a website is useful for the organisation and being able to insert material into the website is of most importance for updating significant station detail, new announcements, program

[12] Source: Department of Finance, Media consumption and communication preferences of Aboriginal and Torres Strait Islander audiences, *Australian Government,* September 2014, p. 24.

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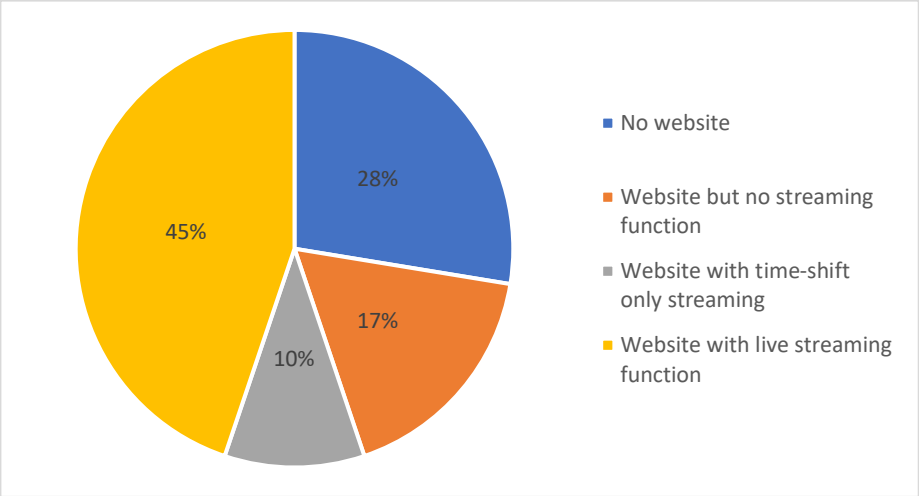
schedules or current community events or issues. Websites tend to hold the official information of the station whereas the social media may contain records of day-to-day programming and events.

Twenty-one organisations audited have websites and three have built sites since responding to the research questions. However, eight broadcasters are currently unable to post to their website that may not exist, needs upgrading, or their internet in their region may be intermittent and unreliable. One organisation has the website but does not insert or cannot insert new information.



The organisations that don't have a website have each expressed interest in owning one or are in the development stage of launching their own site. Website building is expensive and requires a developer to train staff and /or volunteers to maintain the site to load content. Larger organisations have a marketing manager or a production technician who can train broadcasters to load content. It is important that these websites can host audio and video and live streaming of programs. Media organisations should have capacity to publish their own podcast and time-shifted content, rather than rely on a third-party service with copyright compilations for this form of audience engagement. This is a must for audience engagement and participation in Board and employment opportunities.

Live streaming is available on nineteen of the twenty-one of the dedicated station sites audited and two organisations that don't have websites have their programs streamed on external audio players.

I Heart Radio has become popular for community broadcasters, with eighteen audit participant organisations streaming their station on the IndigiTUBE platform. Five respondents have their own App for their station, one of these being Google Play. FNMA notes the launch of the CBAA's Community Radio Plus app in April 2022, which includes some First Nations broadcasters. FNMA provides a secure streaming server to members with 17 member organisations currently making use of this service.

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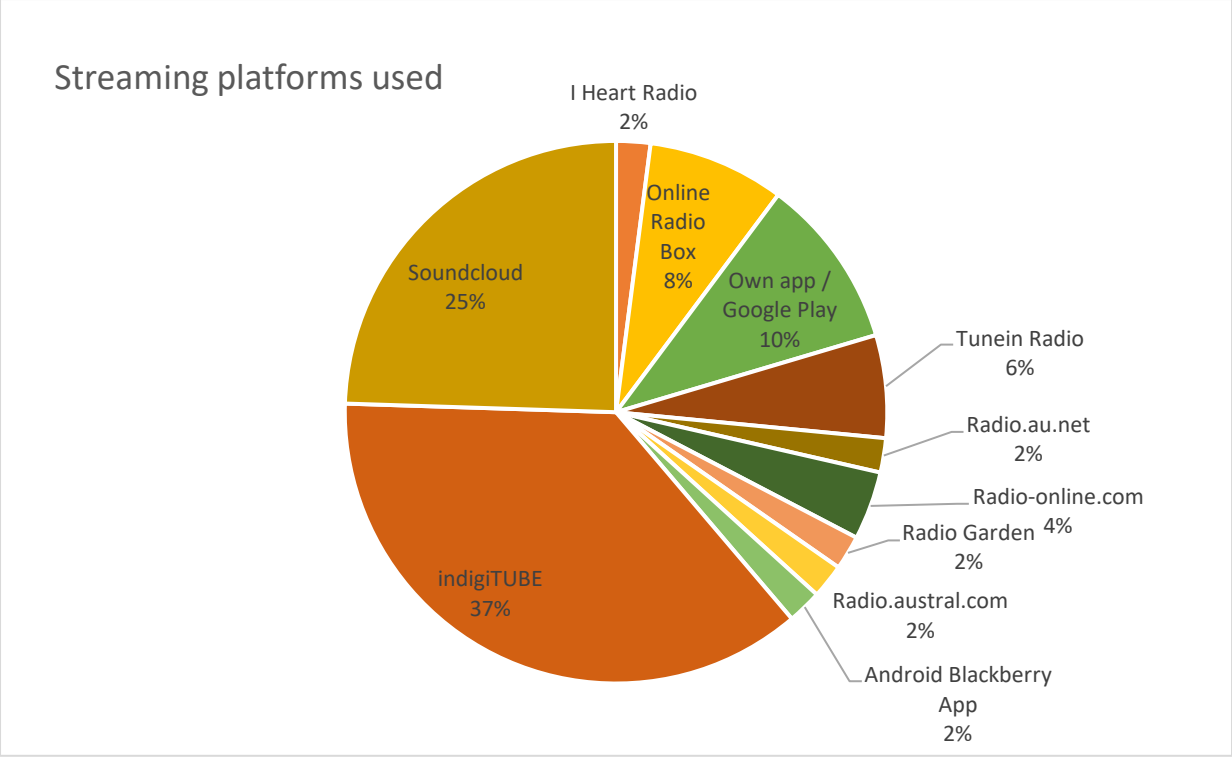

Three organisations have video on demand including ICTV and most participants expressed that they would like to produce video content for online distribution and have the space and equipment in their studios to do this.

Recommendation 7: All First Nations media organisations are resourced to develop locally controlled websites and upskilled (where required) to publish information on online platforms. New sites should include streaming and time-shifted listening functions.
Recommendation 8: Streaming and time-shifted listening options be added to existing websites that don't have this functionality currently to meet audience demand.

Social Media

- **Objective:** All First Nations media organisations can distribute multimedia content online through social media and station websites, including the digital connectivity to upload audio/video files.

"Although accurate statistics are difficult to obtain, recent research suggests that Aboriginal and/or Torres Strait Islander people have always been early adopters of technology and use social media at rates higher than non-Indigenous Australians, with more than 60 per cent of Indigenous people in specifically 'remote' communities active social media users. Even in the most 'remote' areas of Australia, mobile technologies are becoming increasingly commonplace." – Carlson & Frazer, 2018[13]

All First Nations media organisations have some form of social media presence, using available platforms to promote broadcast content and events, engage with audiences, support partner

[13] Carlson, B & Frazer, R, *Social Media Mob,* Macquarie University, 2018

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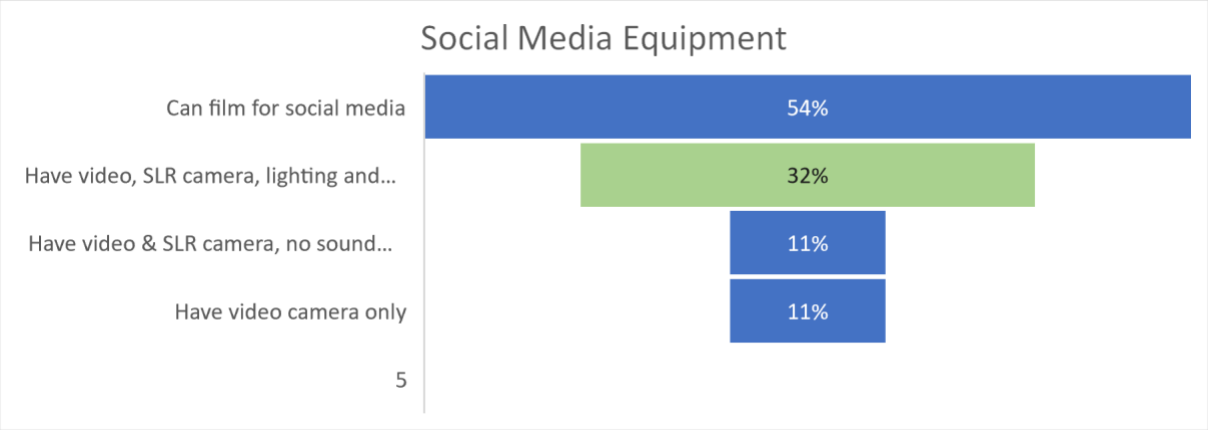
organisations, publish visual content and attract broader audiences. However, some of the smaller organisations operating with minimal staff and volunteers reported they do not update social media accounts due to a lack of training and confidence, issues with access to passwords or barriers to direct posting due to arrangements auspicing organisations such as Councils with full control of content being posted on their own page and there isn't a separate one for their media facility.

Social media platforms have proved to enhance listenership and community engagement. Posting content steers the audience to the website for podcast and interview downloads, station news and community events. Broadcasters consulted recognised the value of using social media to get further longevity for stories and broadcast programs. The video medium carries just as much importance as the radio program in this setting. Probably more so as the broadcast, once aired, can disappear unless repackaged for broadcast later. The social media post complete with picture and audio can circulate for longer than a live-to-air program.

Many broadcasters are using mobile phone cameras and videos to record and upload social media content with variable quality outcomes. Ideally media organisations would have an SLR camera for industry standard images, as well as lighting and sound equipment to accompany video cameras. Only 32% of media organisations audited meet this industry best practice requirement.



Recommendation 9: All First Nations media organisations be resourced with a video camera, SLR camera (or equivalent) and appropriate lighting and field recording equipment for local audiovisual production suitable for online distribution.

Our research found Facebook is the most broadly used social media platform, but First Nations media organisations are expanding to manage multiple online pages, with six organisations curating five concurrent channels, in addition to a station website and their regular broadcast output. This presents a challenge for organisations resourced to produce a single broadcast feed to meet emerging audience expectation for multiple content output channels.

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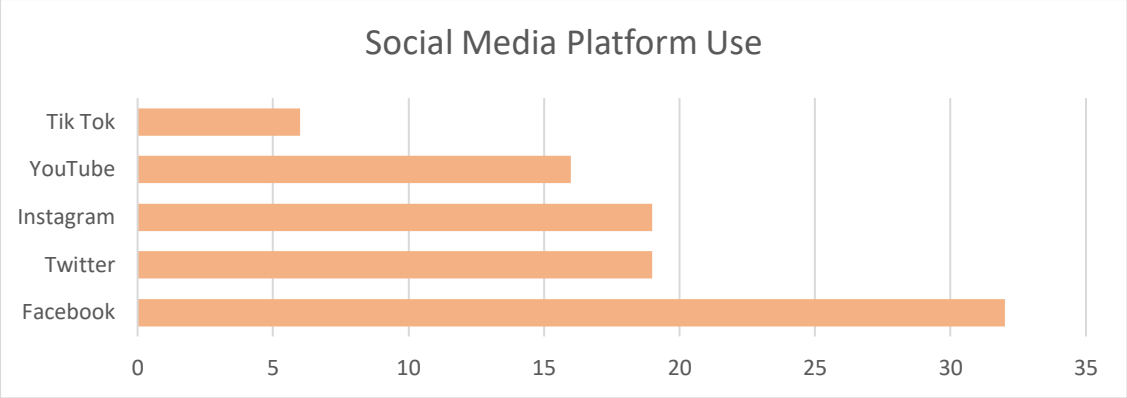
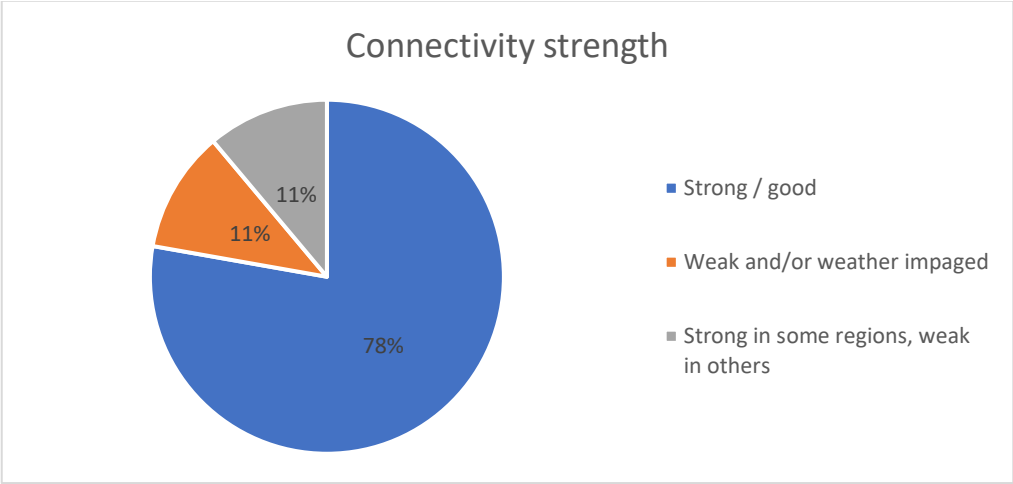


Recommendation 10: First Nations media organisations are resourced to produce and distribute content via social media channels targeted to Aboriginal and Torres Strait Islander audiences. This will likely require a dedicated Content Manager position.

Connectivity

- **Objective:** All First Nations media organisations can distribute multimedia content online through social media and station websites, including the digital connectivity to upload audio/video files.

While internet access is stable (although costly) in the capital cities, regional stations experience significant variance in their capacity to upload audio and video content for online distribution and to conduct outside broadcasts via IP connections. Most RIBS locations experience intermittent internet connectivity and are moving onto NBN services as they're rolled out in remote locations. However, NBN SkyMuster still has significant reliability issues associated with dropouts caused by congestion and interference making continuous audio streaming problematic. Media organisations need some support to stabilise audio signal from studio to transmitter (using IP services) which is increasingly dependent on internet connectivity due to the retraction of POTS services in recent years. Some remote organisations don't have access to the NBN and are using ADSL or fibre to the node as interim alternatives.



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Beyond interruptions to signal distribution, reliable internet is required to provide streaming services, upload podcast and video content for distribution in any platform and undertake outside broadcasts. Some organisations are making good use of NBN and Skymesh services as a low-cost option for networking and streaming. However, signal boosters, narrowcast 4G devices and where suitable, fixed line broadband options each increase connectivity essential to meeting audience demand.

Strong internet is important for signal studio transmitter link (STL) as well as well as streaming and online content production and downloads. All broadcast organisations must have access financially and geographically to the NBN and their audiences must have access to affordable data to receive essential information. It is FNMA's view that Government should subsidise data for both the media organisation and audience to support access to key information.

Investment in current and new technologies are required to improve internet in remote locations. Deploying 4G/5G services in locations where there are none, which enough bandwidth to provide high speed internet during peak times. New technologies include low orbit satellite internet which is high speed, low latency and excels in remote locations.

Recommendation 11: First Nations media organisations are prioritised for internet access under the Indigenous Digital Inclusion Plan.
Recommendation 12: Government subsidises data use for audiences to access essential First Nations media services alongside resources such as libraries and banks through the Indigenous Digital Inclusion Plan.

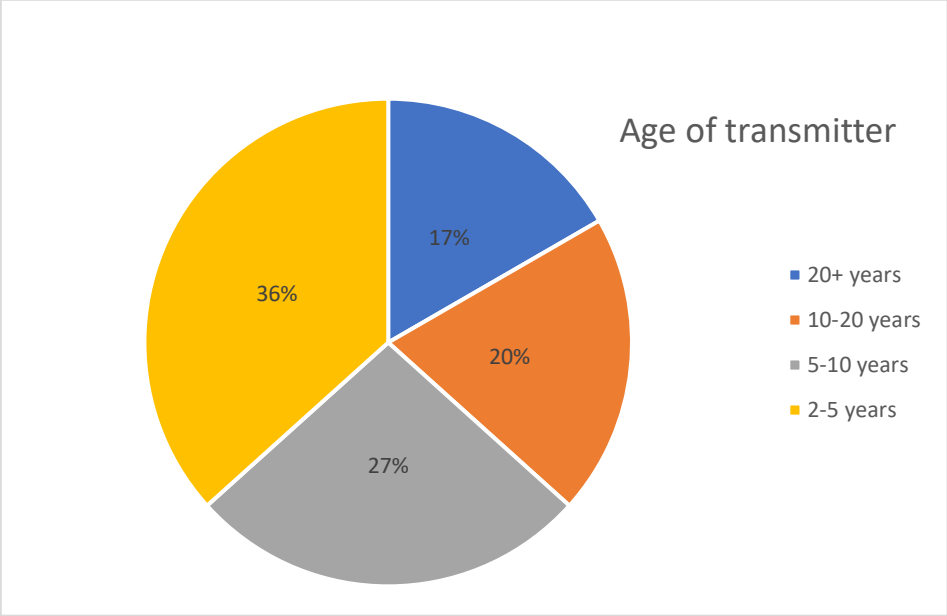
Transmission sites

- Objective: First Nations media organisations can maintain functionality of transmission and studio sites through:
  a) the availability of replacements equipment as backfill during downtime for repairs and unforeseen outages;
  b) generators to address power failures;
  c) appropriate weather protections for local conditions;
  d) a regular maintenance schedule; and
  e) replacement masts.
- Objective: All First Nations media organisations reach all communities they are licenced to service.

While social media and online publishing has become increasingly important for media organisations, terrestrial broadcast remains the primary method for accessing First Nations audio content. The security and reliability of transmission sites and equipment cannot be underestimated in this context.

We found that most transmission towers and linking equipment were over twenty years old. Maintenance and repairs for regional and remotes transmission sites particularly was a challenge due to cost and availability of technicians alongside travel and accommodation expenses. Transmitters are made robust and meant to last a long time and for some networks in the Dandenong ranges in Victoria the original transmitters from the inception of television are still in use because they are regularly maintained. However, without a regular maintenance schedule they become highly vulnerable to damage caused by exposure to weather, wildlife and wear and tear.

If maintenance is regular (every six months is industry best practice) the transmission equipment maintenance should keep equipment running effectively, particularly for the 37% of the sector reliant on transmitters that are more than 10 years old. The environment should be dust free and the air-conditioning units regularly maintained and cleaned on all sites across the sector. The straightforward process of changing the airconditioning air filter twice a year will keep most transmitters in working order. This is not the case for many organisations due to the unavailability of technicians to work on transmission sites and a lack of annual funding for repairs and maintenance.



Backup transmitters and generators for power failure and weather events are essential in providing information services in an emergency and/or weather event. There is a significant gap in ownership of transmitters for the studios and self-start transmitter backup generators on transmission sites with too few stations and networks having back-up power and few listed UPS' in their array of equipment. All transmission sites should have a self-starting generator for over heating or other weather events and power outages. The refuelling of diesel is expensive and dirty and needs to be refilled up after use. A solar grid system is a workable solution for backup generators for both transmitters and satellite receivers. Battery backup and an inverter for switching over in a power failure would be cost efficient and an intelligent way to resource energy for the sector. There is potential for bulk-purchase efficiencies for renewable energy sources to support continuous transmission.

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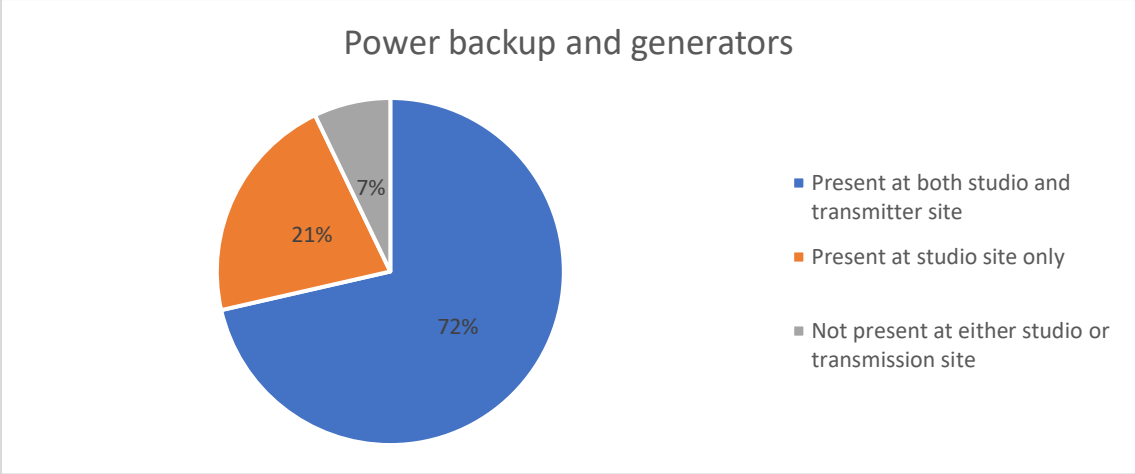

In the face of increasing extreme weather events and other emergencies, continuous, reliable power and internet connection is required to deliver essential information, particularly to isolated local audience groups. Investment in emergency preparedness is required to ensure that organisations have generators that can self-start on transmission and another to power a studio for broadcast in the event of a power failure and/or weather event.

Weather and environment present a challenge for all media organisations, this includes saltwater corrosion in coastal areas with high humidity including the Torres Strait Islands and other top end communities. Lightning strikes, heat, cyclones, and rain outs are all common factors in transmission failure. Customised lightning surge protections include copper rings as well as other earthing practices are required to protect equipment. Improvements toward weather protection are currently being made at 8 locations as part of the COVID-19 Emergency Response funding provided to the sector in late 2021. However, this funding did not stretch to meet the priority requirements of all organisations leaving approximately 20 organisations without appropriate weather protections in place for transmitter sites.

Self-help transmitter sites were identified as problematic due to a lack of technical expertise within Councils responsible for maintaining sites. A lack of maintenance has followed in many communities, resulting in reduced services. These sites could potentially include remote access, with technical support from Broadcast Technicians. Control of transmitter sites (including land ownership and access) has been problematic and some locations and beneficial at others. With no standardised agreement or rental arrangement for transmission sites, media organisations are at the mercy of local negotiations and arrangements for this critical component of the broadcast chain.

Our research found that 8 of the audited organisations own their studio premises, contributing stability to long-term planning for the organisation. Seven groups were renting through another Indigenous organisation or Government group (often a Council). The remaining media organisations are paying commercial rent and are therefore impacted by shifts in the rental market.

Broadcast footprint areas are licenced through the Australian Communications and Media Authority (ACMA) which determines the reach of each broadcast service and the associated height of antenna and transmission wattage. Higher wattage transmitters are more expensive to purchase and require

more power to function, resulting in significantly increased electricity costs between a 1w, 5w, 20w or 100w transmitter. As such, operational cost barriers exist to reaching the full licence footprint in some areas. The Effective Radiated Power (ERP) is usually lower that what the organisation is licenced to broadcast. Similarly, few First Nations media organisations have the technical resources to install and maintain antennas with high gain. There are costs incurred in attaching antennas to another organisation's antenna, another barrier. Mapping the coverage of transmission against the licence conditions would be beneficial to identify the extent of underutilised spectrum and opportunities to increase reach within current licensing conditions. However, this is a whole project in itself and could not be achieved within the scope of this report.

Recommendation 13: All First Nations media organisations are resourced to contract six-monthly service visits for transmission and studio sites.
Recommendation 14: All First Nations media organisations are equipped with generators and power back-up options (ideally solar powered battery) at both studio and transmission sites to support continuous broadcasting during power outages.
Recommendation 15: All First Nations media organisations are supported to undertake emergency preparedness measures at studio and transmission sites, including upgrades to earthing measures for lightning protection, copper rings and cyclone protection measures to preserve existing equipment.
Recommendation 16: A further research project is resourced to accurately map broadcast reach against licence areas.

Licencing

- Objective: All First Nations media organisations have ongoing access to optimal and geographically relevant broadcast spectrum, including capacity to respond to emerging technologies such as digital radio.
- Objective: All First Nations media organisations reach all communities they are licenced to service.

All licencees hold a broadcast service licence (BSL) allocated under the *Broadcasting Services Act 1992* and one or more related apparatus (transmitter) licences issued under the *Radiocommunications Act 1992*.

Across the sector:

- 157 stations broadcast on FM frequencies
- 4 stations broadcast via AM frequencies
- 13 broadcasting via VAST satellite, in addition to FM services.
- 5 metropolitan services broadcasting via DAB+, in addition to FM services in Sydney, Melbourne, Perth, Brisbane and Darwin.

Two audit participants also hold narrowcast licences.

There are four community television licences operating under 'exBRACS' licences in Yirrkala (NT), Amata, Ernabella and Fregon (SA), from a total 5 licences across Australia, Channel 31 being the only

community television licence not operated by a First Nations community. Each of these licences is due to expire in October 2022 and will require re-application for renewal.

There are 102 Temporary Community Radio Broadcast Licences operating across Australia, or which 63 are community-controlled Indigenous services. Although many of these sites have been operating as BRACS/RIBS for 20+ years, it is still necessary for licence-holders to renew annually. Whilst the ACMA has taken steps to streamline the renewal process for TCBLs to reduce administrative load on both applicants and the regulator, it remains a risk to the continuation of services and an additional administrative task to keep licensing current.

There are 361 community radio broadcasting licences operating in Australia, which require renewal through a reasonably extensive re-application process every 5 years. 91 of these community radio licences are committed to Indigenous and Torres Strait Islander communities of interest in remote, regional and urban locations. The renewal process for 'ongoing' 5-year licences is being refined but remains a significant piece of work primarily for Station Managers to maintain services.

Five First Nations radio stations currently broadcast via DAB+ in Sydney, Melbourne, Brisbane, Perth and Darwin. McNair Ingenuity research in this developing medium shows 22% of community radio listeners listen to a community digital radio station representing a continuous growth trend from 12% in 2012 and 0% in 2010. Since 2012 overall listening to digital radio (all licence categories) has almost tripled from 15% to 40%. While the uptake and transition to digital is strong, listening exclusively by analogue (AM or FM) still accounts for 60% of listening to all radio (community, commercial, ABC/ SBS).[14] While it would be rare (3%) for a digital radio listener to not also listen to an analogue station in the past week, First Nations media organisations must maintain the option to reach audiences through this developing format to respond to future audience requirements. First Nations Media Australia notes the ACMA's expansion of approximately 100 local area plans for DAB+ in regional areas with some trepidation. First Nations radio services cannot absorb the additional cost of DAB+ broadcasting in regional areas. DAB+ delivery has been expensive for metropolitan stations. For example, Brisbane Indigenous Media Association (BIMA) currently contributes approx. $15,000 per year from operational revenue, in addition to existing government short-term subsidies, for digital broadcasting.

Recommendation 17: The Department of Communications review licence renewal requirements for TCBLs in Broadcasting Act reform processes currently in progress.
Recommendation 18: The Commonwealth provide ongoing funding support to First Nations media organisations for transmission costs incurred by providing DAB+ broadcast services in regions where this technology has been rolled out.

[14] McNair Ingenuity Research, National Listener Survey, CBAA, January 2017

Technical Support

IT and specialist technologists are required to maintain and repair equipment to ensure consistency with studio and transmission functionality. A significant theme emerging from discussions with media organisation and our findings is a lack of trained technical personnel available to the First Nations media industry, particular in remote and regional locations. This means extended wait times for maintenance and repairs as well as increased travel and accommodation costs to bring expertise from other regions. This has been exasperated by the COVID-19 pandemic reducing availability over two years where we are still seeing lengthy delays for repairs, installation and maintenance of equipment.

The industry is addressing this shortfall in two ways, either by: using IP people closest to them who may not have specialist expertise to understand how computer networks should behave in the radio broadcast environment; or to draw expertise from other parts of the country, such as several stations in northern Queensland who are being supported by technicians based in Melbourne. While much of the work *can* be conducted remotely, increased focus on IP-broadcast technologies means that technicians are required at short notice to address system errors and software updates. It is increasingly difficult to separate technology personnel from broadcast infrastructure – one does not function without the other.

There is a clear skills gap emerging across the industry to install and maintain hardware, find and repair faults, program and network software. This is an issue across the broader community media sector, the public broadcasting sector (ABC particularly) as well as the telecommunications sector (Telstra/NBN). A coordinated training and employment program for Broadcast Technologists is required as an employment pathway in remote and regional areas, and to address this personnel shortfall across sectors. It is an opportunity for a First Nations-led solution to an industry-wide problem.

Recruiting and encouraging new technicians who are passionate about learning about broadcast transmission and audio-visual technologies is recommended. To spite a trend towards computer-based IP broadcasting, broadcast technicians still need to be trained in transmission equipment and signal delivery including the use of older analogue equipment and audio. New technicians to spend more time with more experienced technicians to facilitate this transfer of knowledge.

Similarly, record-keeping and the transfer of information from one technician to another is easily disrupted. The creation of a digital log for work as a central a place for information sharing for training and be important for other technicians working on the site is a potential solution to this issue. This could be developed as a national data base or online tool to connect TX and broadcast technicians and engineers. Securely shared master passwords for computer systems within each organisation and spreadsheeted IP addresses used across the organisation would also increase efficiency of technical support.

Significant investment in training and messaging in building a stronger circle of technicians trained specifically in broadcast technology would encourage younger First Nations students to include subjects in their high school curriculum with a focus on broadcast engineering, IT and cross platform media production.

A national database of Technicians, their skill base and notes/maintenance actions should be accessible for managers to access online along with preferred supplier resources. A coordinated schedule for routine cleaning and maintenance of air filters and air conditioning in TX sites to protect equipment from dust is required and cannot be met by current operational funding levels.

The Community Media Training Organisation is developing training courses to upskill technical personnel, however First Nations participants will likely need support to participate in the volunteer-based program and further tailoring to suit the particular challenges of remote broadcasting to install and maintain hardware.

Recommendation 19: A national database of Technicians be developed and made available to Managers to access online along with preferred supplier resources.
Recommendation 20: Alongside the Technician database, a centralised record of key maintenance actions be established and maintained for continuity.
Recommendation 21: A coordinated career development program be resourced to bring an additional 15-20 technical personnel into the sector and build career opportunities in remote and regional areas with technicians receiving centralised support and networking to enhance best practice and knowledge sharing with potential for media organisations to develop new income streams through the provision of technical services to other media and telecommunications providers.

Conclusion & Summary of Recommendations

This infrastructure audit has returned a number of findings that reinforce the need for sharing resources and stronger networking between media organisations to reduce duplication of research and more effectively share learnings. To do this, a stronger technical resource with an emphasis on skill sharing is required.

For some years now, First Nations media organisations have been settling for substandard equipment and 'band-aid' approach to all infrastructure and management system. Meanwhile, the need to represent First Nations stories and perspectives to Indigenous, mainstream and international audiences has grown, as has the capacity to reach these audiences through online platforms.

To facilitate broadcast activities at an industry best practice level that connects with relevant audiences, FNMA has made a number of recommendations focused on infrastructure and some complementary measures required to make best use of relevant infrastructure. Where applicable, current levels of achievement have been provided to indicate the scale of investment required across the sector on individual areas of focus.

- Recommendation 1: All stations are equipped with two broadcast studio facilities and one production studio facility – up from 35%.
- Recommendation 2: All First Nations media organisations be resourced to establish a functioning outside broadcast unit best suited to their local broadcast activities – up from 82%
- Recommendation 3: All First Nations media organisations are equipped with mobile journalism kits and functional websites featuring local editing options – up from 45%

- Recommendation 4: FNMA should negotiate a bulk rate licence fee for Hindenburg Pro and all media organisations should receive funding support to access this editing software.
- Recommendation 5: All First Nations media organisations are equipped with at least one video production kit (which includes: camera, tripod and field recording equipment) – up from 54%
- Recommendation 6: That the Commonwealth reinstate funding for community-based screen content production, in addition to audio content production funding currently provided.
- Recommendation 7: All First Nations media organisations are resourced to develop locally controlled websites and upskilled (where required) to publish information on online platforms. New sites should include streaming and time-shifted listening functions. – up from 71%
- Recommendation 8: Streaming and time-shifted listening options be added to existing websites that don't have this functionality currently to meet audience demand – up from 90%
- Recommendation 9: All First Nations media organisations be resourced with a video camera, SLR camera (or equivalent) and appropriate lighting and field recording equipment for local audiovisual production suitable for online distribution. – up from 32%
- Recommendation 10: First Nations media organisations are resourced to produce and distribute content via social media channels targeted to Aboriginal and Torres Strait Islander audiences. This will likely require a dedicated Content Manager position.
- Recommendation 11: First Nations media organisations are prioritised for internet access under the Indigenous Digital Inclusion Plan.
- Recommendation 11: First Nations media organisations are prioritised for internet access under the Indigenous Digital Inclusion Plan. – up from 78%
- Recommendation 12: Government subsidises data use for audiences to access essential First Nations media services alongside resources such as libraries and banks through the Indigenous Digital Inclusion Plan.
- Recommendation 13: All First Nations media organisations are resourced to contract six-monthly service visits for transmission and studio sites. – up from 0%
- Recommendation 14: All First Nations media organisations are equipped with generators and power back-up options (ideally solar powered battery) at both studio and transmission sites to support continuous broadcasting during power outages. – up from 72%
- Recommendation 15: All First Nations media organisations are supported to undertake emergency preparedness measures at studio and transmission sites, including upgrades to earthing measures for lightning protection, copper rings and cyclone protection measures to preserve existing equipment. – up from approx. 29%
- Recommendation 16: A further research project is resourced to accurately map broadcast reach against licence areas.
- Recommendation 17: The Department of Communications review licence renewal requirements for TCBLs in Broadcasting Act reform processes currently in progress.
- Recommendation 18: The Commonwealth provide funding support to First Nations media organisations for transmission costs incurred by providing DAB+ broadcast services in regions where this technology has been rolled out. – currently 5 organisations.
- Recommendation 18: A national database of Technicians be developed and made available to Managers to access online along with preferred supplier resources.

- **Recommendation 20:** Alongside the Technician database, a centralised record of key maintenance actions be established and maintained for continuity.
- **Recommendation 21:** A coordinated career development program be resourced to bring an additional 15-20 technical personnel into the sector and build career opportunities in remote and regional areas with technicians receiving centralised support and networking to enhance best practice and knowledge sharing with potential for media organisations to develop new income streams through the provision of technical services to other media and telecommunications providers.

FNMA acknowledges there is significant variation in the geographic landscape of each broadcast footprint and encourages the NIAA to work with each media organisation to determine what 'best practice' means in their local environment. While we have provided some broad-scope ideas here, media organisations must have the opportunity to tailor infrastructure requirements to their own circumstances and communities. These recommendations are intended as a basis for those ongoing discussions.

Project Team

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About First Nations Media Australia

First Nations Media Australia is the national peak body for the First Nations media and communications industry. It supports and amplifies the First Nations media sector and its objectives. Its purpose is empowering Australia's First Nations people through our culturally connected media industry. Its activities include resource and policy development, skills development, networking events and meetings, content-sharing, promotion, regular communications, annual awards, research activities and representation. As part of its industry leadership role, FNMA seeks to ensure First Nations communities have access to information required to make informed decisions. The crossover of infrastructure, digital literacy and access to information between telecommunications and media is significant. Therefore, First Nations Media Australia advocates for the digital inclusion and connectivity needs of all Aboriginal and Torres Strait Islander people.

First Nations Media Australia membership includes:

29 First Nations media organisations
48 Aboriginal and Torres Strait Islander individual members working in First Nations media
10 First Nations media adjacent organisations
10 Aboriginal and Torres Strait Islander people working in media adjacent industries
6 organisational and 13 individual Friends of FNMA (non-Indigenous)

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Appendix A – Information Sheet example

August 2021

Infrastructure Audit

Project Manager: Wayne Bynder 0447 166 240
Project Assistant: Kirstyn Lindsay 0401 742 886

Background & purpose

The Infrastructure Audit is a sector-wide audit of broadcast technology and relevant equipment necessary for the provision of essential broadcast services across the First Nations media industry.

The purpose of collecting equipment data is to help establish an industry benchmark for broadcast technology (what all media organisations *should* have to meet audience needs) and what organisations *do have* currently. This will help identify, at an industry-wide level, what is needed to ensure all media organisations have the equipment to provide full media services your communities now and in the immediate future (ie. next 5-10 years).

To do this, the Audit will look at what equipment you have, what condition it's in (ie. is it working?) and whether you have the equipment you need to be fully functioning media organisations including radio, screen content, online, OB and/or digital broadcast services. Obviously not all regions have the same requirements, but this audit is a starting point for working out themes and common barriers facing organisations and areas of priority for investment.

The audit will build on the data collected from the 2014 review of RIMOS & RIBS and will expand to include urban and regional stations and networks. As well as identifying priorities for future investment, we also hope that collecting this information will help save organisations time and resources in gathering tech information. For example, it means we can provide a quick reference response to questions like;

- what are the top three playout systems media organisations are using across the sector?
- Who else is using Elan digital consoles? What technicians are experts in those elements?
- Is there particular infrastructure FNMA should be negotiating a bulk deal or discount supplier offer on?
- What are the future technology trends our industry should be engaging with?

These are just a few examples of areas we believe could save time, money and harness expertise as an outcome from this process, as well as providing evidence for future Federal Budget submissions.

The more media organisations involved, the better picture we'll have as an industry and the stronger case the sector will be able to make for support moving forward.

Data collection and storage

All data collected through this audit will be saved on stored on spreadsheets. Each organisation will have their own spreadsheet that is managed by FNMA and accessible to the relevant media organisation to view and/or edit as required. The data you provide will be shared with FNMA but will

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not be visible as raw information to any other organisation besides you. In this way, it creates an online back-up for your asset register and a record of your equipment that you're welcome to access for your own organisational purposes anytime.

Aggregated data will be shared through a published Infrastructure Audit report which will be available to Government departments, agencies and stakeholders. Your individual organisational information won't be shared, but the collective story the data tells overall will be publicly available. You will also have copies of that report, plus your own organisational data to support funding submissions and negotiations for your media organisation.

Next steps

Firstly, we need to collect information from you. Then, we'll collate that information alongside the details from all of the other First Nations media organisations and analyse any similarities or emerging trends across them. A lot of that information we have already discussed at conferences and meetings, but this process helps us tell that story in numbers, which is a key requirement when talking to Government.

So, we want to hear from you and what your needs are. It's an opportunity to gather and compile information about your existing equipment, and its current functionality.

Some examples of questions the audit will consider include:

- How old is your transmitter? Has it been maintained?
- Are you reaching your full licenced area/broadcast footprint?
- Does your studio equipment need upgrading?
- Is there regular maintenance scheduling? You provide those services for your organisation?
- Is there a need to replace the console in the near future?
- Do you have internet connectivity and how well is it working?
- What type of software are you using for playout systems and/or editing programs?

Timeline

We want to start gathering information from your organisation asap. This might require a team effort and we're very happy to work with you on collecting the relevant information.

Your Asset Register is a very good place to start. Please send us a copy of your current Asset Register by Friday 27th August. We have requested this as part of the Expression of Interest process for the distribution of the urgent infrastructure funding which you should have received an email recently.

Wayne and Kirstyn will work with you to collect further information which may not be on your asset register, and pair that with some of the licensing information publicly available through the ACMA. We aim to complete the collection of all relevant data by 30th September, allowing time for analysis and report writing by January 2022.

Get in touch

If you have any questions or would like to set up a time to talk about the Infrastructure Audit in more detail, please contact:

Wayne Bynder – Project Manager
wayne@firstnationsmedia.org.au
0447 166 240
Or

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Timeframe summary of two activities

Month	INFRASTUCTURE FUNDING Purpose: to fix what's broken now	INFRASTRUCTURE AUDIT Purpose: to identify what needs replacing and updating next year
August	EoIs collected	Asset registers collected
September	Discussion of EoIs with each organisation & potential collaborations identified	Compiling asset registers and transmission information from the ACMA
October	Decisions on funding allocations with the NIAA	Filling in any gaps in information needed with media orgs (ie. working with you to collect info on your current broadcast systems)
November	Distribution of emergency repair funding (fixing what's broken now)	Collating information, establishing industry best practice
December	Repairs work being done	Report prepared to identify what is needed across the sector
January		
February		Pre-Budget Submission submitted
March	Repair work completed and reported back to FNMA	Advocacy for future needs (backed by data) with government
April		
May		2022-3 Federal Budget announcement
EXPECTED OUTCOME	**Immediate repairs**	**Sector-wide evidence for future funding**

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