Australian Government
Australian Institute of Criminology

AIC reports
Research Report 23

Benchmarking the use of audiovisual link technologies in Australian criminal courts before the pandemic

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ISSN (Online) 2206-7280
ISBN 978 1 922478 19 1 (Online)
https://doi.org/10.52922/rr78191

Published by the Australian Institute of Criminology
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Tel: (02) 6268 7166
Email: front.desk@aic.gov.au
Website: aic.gov.au

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General editor: Dr Rick Brown, Deputy Director, Australian Institute of Criminology

Edited and typeset by the Australian Institute of Criminology

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Acknowledgements

Assistance with the preparation of this report was provided by Marissa Hood, former Research Librarian at the AIC.

Court observations were conducted by Macquarie University graduate students Hannah Shortte in Sydney and Perth, Primus in Brisbane, Christine Abboud in Melbourne and the authors, Russell Smith in Melbourne and Rebecca Savage in Adelaide.

Information on and assistance with arranging court observations was provided by court registrars and administrators, staff of Departments of Justice and Attorneys-General, and AVL Project staff in each state and territory.

The Project was approved by Human Research Ethics Committees in the Australian Capital Territory (AIC no. P0258A), Victoria (JHREC no. CF/16/22825) and Western Australia (RAAC no. 424).

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Any errors of omission or commission remain the responsibility of the authors.

Abstract

This report is the second published by the AIC arising from its national video courts research program (the AVL Project) and documents the development and implementation of AVL (audiovisual link) technologies in the criminal courts in Australia, before the onset of the COVID-19 pandemic in late 2019. An accompanying report assesses the practical and legal considerations that need to be taken into account when adopting AVL technologies in the criminal courts (Smith, Savage & Emami 2021). In 2017, 196 criminal cases in the largest states were observed by AIC researchers in person for the purposes of documenting the operation of systems in practice. Although there is some variability in the maturity of AVL systems in different jurisdictions, it is clear that they now occupy a central role in the administration of criminal justice throughout Australia—particularly since the onset of the pandemic. This report identifies a number of advantages and limitations of the technologies used and offers some practical solutions that could help to make systems more efficient and fairer for all involved.

Executive summary

This report is the second published by the AIC arising from its national video courts research program (AVL Project) and documents the development and implementation of audiovisual link (AVL) technologies in the criminal courts in Australia shortly before the onset of the COVID-19 pandemic in late 2019. It presents findings of the AIC's research on the nature and extent of AVL usage in Australian criminal courts and the benefits and limitations that have arisen since the introduction of these systems in the late 1980s. As such, it provides a benchmark of the implementation of AVL technologies in the criminal courts in 2017 against which the substantial changes due to the pandemic can be measured. An accompanying report assesses the practical and legal considerations that need to be taken into account when adopting AVL technologies in the criminal courts (Smith, Savage & Emami 2021).

In 2017, 196 criminal cases in the largest states were observed by AIC researchers in person for the purposes of documenting the operation of systems in practice. In 182 cases, proceedings were conducted solely through the use of AVL technologies.

AVL was found to have been used extensively for administrative and minor matters in the criminal courts such as applications for adjournments, mentions and uncontested plea hearings. In only a small proportion of the cases observed in 2017 was AVL used to receive evidence from accused and witnesses in trials and for sentencing hearings.

Although most courts and correctional facilities have some type of AVL systems in operation, inconsistencies in the way that courts document the use of such technologies means it is difficult to compare the way in which these technologies are being used within and between jurisdictions. Since 2015, many millions of dollars have been allocated to the implementation and enhancement of AVL technologies in most jurisdictions in Australia. In the largest states, tens of thousands of AVL appearances are currently made each year, accounting for more than half of all court appearances—mostly involving individuals in custodial locations. During the pandemic in 2020, almost all criminal proceedings were heard using AVL technologies.

The AVL hearings observed took, on average, 12 minutes. Short, procedural applications sometimes occupied only a few minutes, while hearings in which witnesses gave evidence via AVL occupied an hour or more.

Hearings conducted using AVL technologies were found to have substantial cost and time savings due to avoidance of travel to courts and efficiencies in scheduling of cases. The use of AVL systems also provides litigants with improved access to the courts, which is particularly beneficial for those residing in remote communities in Australia. Benefits have also arisen through enabling vulnerable witnesses to avoid close contact with alleged offenders in courtrooms. The need for social distancing created by the onset of the coronavirus pandemic led to the use of AVL technologies on a wide scale as governments have restricted the extent to which individuals can congregate in public places in order to reduce risks of infection.

Despite these benefits, AVL systems are not flawless. Technological problems are still evident, although serious problems were evident in less than seven percent of cases observed. In all the proceedings observed, some problems (including minor difficulties) were evident in almost 70 percent of cases heard in all the (largest) states visited. Problems with visual images occurred in approximately 28 percent of cases and problems with the quality of audio and sound in almost half of the cases observed.

The AVL facilities available in many Australian courtrooms are now approaching a good level of technological efficiency, but the logistics of ensuring that people are located in AVL suites at the desired time of the session continue to be problematic. As the demand for AVL sessions increases, the pressure on the availability of courtrooms equipped with suitable facilities and remote locations with private and adequate spaces for participants will increase. Further development is needed in the policy frameworks that facilitate the use of AVL technologies in the criminal courts. It is not enough simply to expend resources on installing and improving the latest technological solutions of hardware and software. More thought needs to be given to assessing and improving the impact of AVL technologies on all those making use of them.

Introduction

Audiovisual link (AVL) technologies were not introduced into Australian courtrooms until the late 1980s following a push to excuse vulnerable witnesses, such as children and sexual assault victims, from having to be physically present in court at the same time as accused defendants. The aim was to ease any undue stress or secondary victimisation that a victim might experience as a result of being in the presence of the accused (Wallace 2008a: 208; Wallace 2008b). Closed-circuit television (CCTV) was one of the first types of technology introduced in courtrooms in an effort to address these concerns. This technology was viewed as a suitable alternative to face-to-face court appearances because it successfully supported two-way audiovisual communication between the remote participant and members of the court (Rowden et al. 2013: 49). In one study, however, the quality of early CCTV evidence given by children in sexual assault cases was found to be questionable (Cashmore & Trimboli 2006), although this was many years before the AVL systems currently in use were in operation. By 1999, Australia's court communication practices had further improved, with AVL expanding from point-to-point communication between two people to multiple site communication between an undefined number of participants (Krawitz & Howard 2015: 45; Wallace 2008a: 208–9). Today many systems are wireless and internet-based with high-resolution large-scale screens and the availability of multiple participants in various locations.

The present research sought to examine the current use of AVL technologies in the criminal courts in the largest Australian states in order to assess the extent of use, the types of matters in which AVL is used, efficiencies in the presentation of evidence, and associated technological and administrative problems present in 2017, shortly before the onset of the COVID-19 pandemic. An accompanying report deals with the arguments for and against the use of AVL technologies in terms of technology, administration, law and procedure (Smith, Savage & Emami 2021). The present report deals with the actual implementation of AVL technologies and the extent to which they are used for different types of criminal proceedings and applications at all jurisdictional levels in New South Wales, Victoria, Queensland, Western Australia and South Australia. The remaining jurisdictions were excluded in view of their smaller caseloads and to contain research costs, although desk-based research was conducted to explore the use of AVL in these remaining jurisdictions. In any replication of this study, it is hoped that all jurisdictions could be included in actual court observations.

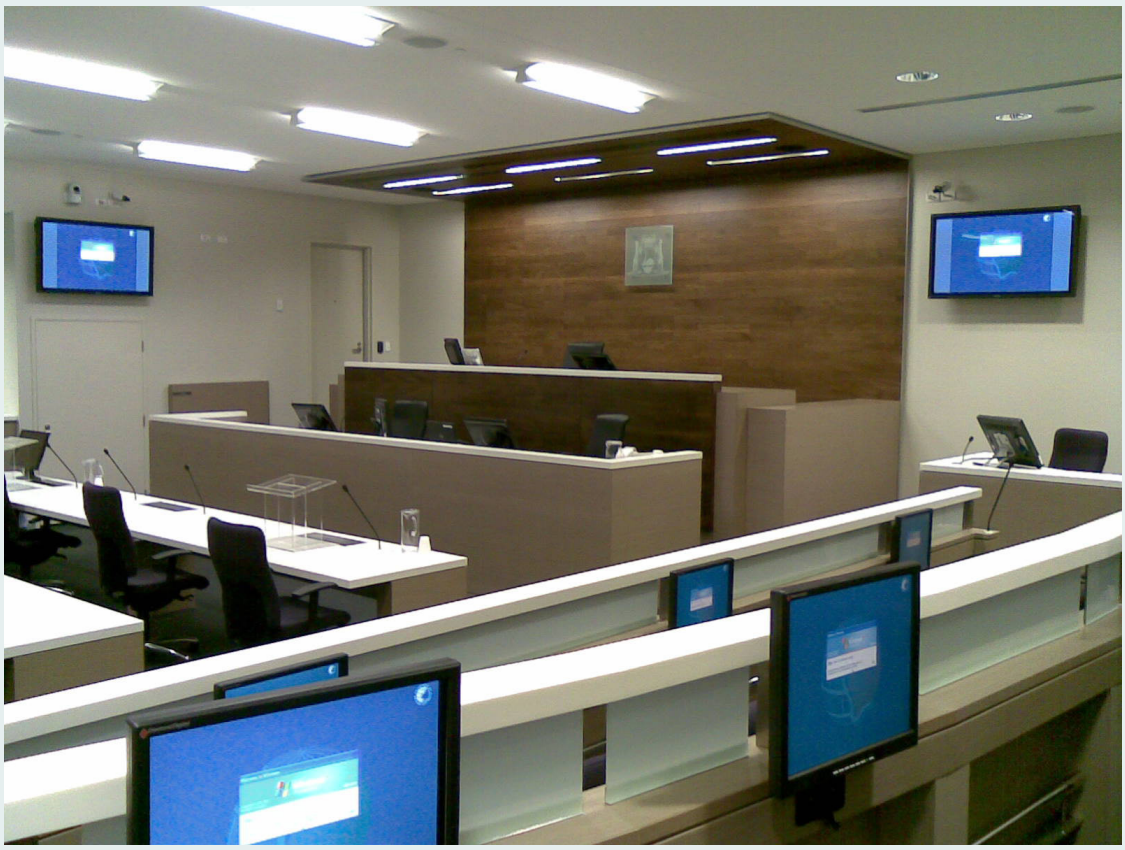
Methodology

To quantify the use of AVL technologies in the criminal courts in Australia in 2017, the present study adopted a number of approaches. Initially, an examination was made of relevant administrative data published in official reports and academic research. This yielded some general findings but revealed considerable gaps in knowledge.

Interviews were then undertaken with those responsible for administering AVL technologies in the criminal courts in selected jurisdictions to assess the data collections they maintain and their ability to document the data fields of interest for the present study. Interviews also dealt with the benefits and problems associated with the use of AVL technologies in these courts. Face-to-face interviews were conducted with court officials on 21 June 2017 in Melbourne, 3 July 2017 in Canberra, 19 July 2017 in Brisbane, 24 July 2017 in Sydney, 27 July 2017 in Adelaide, and 13 November 2017 in Perth. Other jurisdictions were unable to participate in interviews. It was generally agreed that interviewees would not be quoted in the report. More recent documentary information relevant to all jurisdictions has, however, been included.

With the assistance of court officials, a series of observations of court proceedings that involved the use of AVL technologies were undertaken by AIC research officers in New South Wales, Victoria, Queensland, Western Australia and South Australia. An example of a recent AVL-equipped courtroom in Perth is shown in Figure 1.

Figure 1: District Court, Perth, 21 November 2017



Source: Hannah Shortte

This fieldwork was approved by the AIC's Human Research Ethics Committee (PO-258A). In Victoria the Department of Justice and Regulation Human Research Ethics Committee (JHREC-CF-16-22825) and in Western Australia the Department of Justice Research Application and Advisory Committee (RAAC-424) both approved the fieldwork including interviews with court officers and observation of court proceedings. Permission was also obtained from relevant court administrators and judges to observe court proceedings and take notes. All proceedings observed were conducted in open court and any information identifying individuals and facts concerning alleged criminal activity was neither recorded nor published. It was agreed that individuals involved in proceedings, including judges, lawyers and accused/prisoners, would not be interviewed or quoted in the report.

The results of these activities provided a general, although incomplete, understanding of the extent to which AVL technologies were being used in the criminal courts in Australia in 2017, when the research was conducted. Because the use of AVL systems in the criminal courts in 2017 was somewhat ad hoc, apart from court mentions and applications by individuals in detention, the findings of the court observations cannot be generalised throughout Australia. Cases were selected for observation with the assistance of court officials who were aware of AVL bookings made in advance. In many cases, however, these were adjourned for various reasons, or conducted without the use of AVL. It was impossible to undertake a systematic, representative selection of cases to be observed, given the time constraints on the availability of research personnel and the frequent changes that occurred in scheduling of AVL hearings. As such, the observations provide a limited indication only of how AVL proceedings were conducted, and the extent to which these technologies were used.

Summary data documenting the court observations undertaken are presented in Table 1. Because the presence of AVL use in the courts observed could not be guaranteed prior to actual attendance at court, on seven days observations were made in AVL-equipped courts when the AVL technologies were not actually used. This enabled the observers to compare, to a limited extent, proceedings conducted with and without the use of AVL. The small numbers of non-AVL days, however, did not allow for quantitative comparisons to be made.

Table 1: Summary data relating to court observations undertaken in 2017

Jurisdiction	NSW	Vic	Qld	WA	SA	ALL (*n*)	ALL Mean
Dates courts observed in 2017	21 Sep to 3 Oct	30 Oct to 3 Nov	2 Nov to 24 Nov	13 Nov to 17 Nov	10 Aug to 17 Aug		
Days observed	11	5	8	5	6	35	7.0
Days without AVL	6	1	0	0	0	7	1.4
Days with AVL	5	4	8	5	6	28	5.6
Total no. of proceedings observed	34	27	29	49	57	196	39.2
No. of proceedings without AVL	9	2	2	1	0	14	2.8
No. of proceedings with AVL[a]	25	25	27	48	57	182	36.4
Local (Magistrates') Courts	23		26		11	159	31.8
District (County) Courts	0		0		13	17	3.4
Supreme Courts[b]	2		1		1	6	1.2

a: Proceedings with AVL includes prerecorded evidence (not live)
b: Supreme Court proceedings include Supreme Court cases heard in District Court buildings
Source: AIC Court Observations data file

Although 182 proceedings were observed in which AVL technologies were used (93% of the total number of proceedings observed), this represents a small proportion of total AVL usage in the criminal courts in Australia. Currently, AVL is used extensively for administrative and minor matters in the criminal courts such as applications for adjournments, mentions and uncontested plea hearings. In only a small proportion of the cases observed was AVL used to receive evidence from accused and witnesses and for sentencing hearings. It was also not possible to coordinate observations with occasions upon which evidence from witnesses located external to courts was given via AVL, other than on a few days. This was due to the difficulty in predicting precisely the hours during which remote evidence would be given, particularly in the higher courts.

Although only a small sample of the total number criminal court proceedings that make use of AVL in Australia each year was able to be observed, the observations nonetheless provided an opportunity to see a variety of AVL proceedings in practice, and, although a convenience sample, it provided an indication of the manner in which these technologies are being used and some of the regular advantages and problems encountered.

Types of AVL technologies and software used in Australia

A number of different types of AVL technologies and software are currently being used in Australian courts, although internet-based systems are the most recent and prevalent at present. The systems include closed-circuit television (CCTV), Integrated Services Digital Network (ISDN), Internet Protocol (IP), and satellite-based videoconferencing. Software options for use with internet-based services include the full range of systems available such as Skype, Jabber, Zoom, Webex and Microsoft Teams. Each of these technologies operates in slightly different ways, and has a number of advantages and disadvantages, as outlined below.

Closed-circuit television

Closed-circuit television can be defined as a point-to-point secured video system in which signals are transmitted from a video camera to specific television monitors in another location within the courtroom (Cunningham & Hurley 2007). It was the first type of AVL system used in the courts.

There are several advantages of using CCTV in court. Of importance is the ability of CCTV to enable a person to give evidence from another location within the court, but outside the courtroom. This has recently become important because of social distancing demanded during the coronavirus pandemic. CCTV also does not require an internet connection, which makes it more secure and resistant to unauthorised external access. It is also cost effective as it does not have any associated call costs. However, CCTV is generally only accessible within the court precinct, only allows for two-way communications and is only accessible in specified locations—all major limitations that have made the use of CCTV for court proceedings less desirable than internet-based options.

Integrated Services Digital Network

Integrated Services Digital Network is '[a] digital telephone line used for high-speed digital computer communications, video conferencing, internet connections and telecommuting' (Palmer & Walters 2012: 427).

The advantages of using an ISDN service are diverse. Apart from being less likely to suffer from audio and visual distortion, it can also operate at high resolution and is remotely accessible. In addition, it is cheaper to operate than satellite-based technologies, and allows for multipoint connections. It is also available in most places in the world where standard telephone services exist, and has fixed costs associated with its use (Weinstein 2006: 2–3). Notwithstanding these advantages, ISDN connections are expensive to establish, costing several thousand dollars per endpoint. They are also expensive to operate, with calls attracting per minute charges. Further, it cannot be determined that a line is broken until a call is made, and both parties can only use one system at a time in order to prevent audiovisual disruption (Weinstein 2006: 3).

Internet Protocol (IP) based connections

Voice over Internet Protocol (VoIP) connections allow people to communicate using the internet by converting sound waves into digital packets using an IP address and then converting the data back into sound waves for use in devices (Lamba & Kaur 2014: 178). VoIP is both cost-efficient and flexible and IP-based connections are less expensive to operate than other types of connections as there are no rental charges on the dedicated phone line, and users generally just pay for service charges (McDougall 2013: 5). In addition, modern courtrooms usually no longer have ISDN lines but make use of ethernet cables or wireless connections.

While the cost efficiency and flexibility of this type of service makes the technology more user friendly, its reliance on the data network means that VoIP technology is more susceptible to security breaches such as hacking and eavesdropping (Angrisani et al. 2013: 3691; Butcher, Li & Guo 2007).

Satellite videoconferencing

Satellite videoconferencing relies on data transmitted via a communications satellite located in space. One of the biggest advantages of this technology is that it is able to overcome the lack of terrestrial infrastructure in rural and remote areas of Australia, such as in Western Australia and the Northern Territory. It also offers better quality transmission than IP and ISDN connections and allows the use of closed user group networks.

Like some smartphones and web-based conferencing platforms, satellite signals can also be encrypted. While this is a useful method for safeguarding information against hacking and other cyber-threats, it has been acknowledged that encryption increases operational costs and can have a negative impact on the efficiency of the system that is being encrypted. Indeed, encrypting satellite signals has been found to decrease performance by 80 percent in some cases (Fritz 2013: 28; see also HIRBSecConf 2008 – Day1-Track1-Jim Geovedi & Raditya Iryandi – Hacking a Bird in the Sky 2.0.avi 2008). Other disadvantages of this type of system include the fact that this technology is only accessible in certain locations, and that it is not as cost-effective as web-based AVL technologies.

Skype and Teams

Skype and Teams are Microsoft's teleconferencing applications that allow multiple parties to communicate in real time using audio and visual data. They are compatible with most operating systems and devices and users can participate through a web interface without needing a pre-paid account in the case of Skype, although Teams requires a business account to initiate calls but allows others to join using an unpaid internet connection. Both platforms allow multiple users to participate. For security, end-to-end encryption is used (Ansaldo 2020; Krawitz & Howard 2015).

Skype and Teams are used by a number of courts and tribunals in Australia for communicating with litigants, mainly in civil, as opposed to criminal, proceedings (Krawitz & Howard 2015). They have also been used for conferencing in correctional facilities and for public officials in government offices.

Despite the fact that Skype is being used in some courts and tribunals, questions about its suitability and capacity to maintain security of information have been raised (Dawson 2015: np; Krawitz & Howard 2015). Indeed, Ellis (2011: 56) argued that the use of Skype in Western Australian custodial facilities is not at all secure. The Department of Justice WA has attempted to mitigate security concerns by not connecting Skype to its corporate network and not recording transmissions. However, this does not prevent hacking or unlawful interference with sessions. It merely attempts to protect the offender's right to privacy from correctional staff. Further, Skype, as opposed to ISDN or satellite videoconferencing, is more likely to suffer from video and voice distortion. The picture quality on Skype is also of a lower resolution than that obtained using ISDN and satellite videoconferencing. Finally, Skype calls can be subject to interference from other callers who can access connections unless privacy settings are used appropriately.

Despite these concerns, the fact that Skype is largely free to use and relies on readily available software and operating systems means that this type of videoconferencing, compared to ISDN systems, has substantial cost savings and convenience for both parties to proceedings and for the courts (Dawson 2015). Further, the ease with which Skype can be accessed means that witnesses who are overseas or are ill and unable to travel to court have the opportunity to participate in proceedings relatively easily, without having to go to dedicated locations that have AVL facilities available (Dawson 2015: np).

Zoom

Zoom is a cloud-based videoconferencing system that also works with most operating systems and devices. Zoom has greater capacity in terms of users, with up to 49 on-screen images possible from up to 1,000 participants. This capacity is more useful for large companies than in the court environment. Connections can be made via a shared internet link with an account and Zoom can allow documents and chats to be shared during meetings. Like Skype, Zoom is able to integrate meetings with other applications (Ansaldo 2020).

Zoom, like Skype, however, has been subject to security breaches in which third parties have broadcast unwanted images into live meetings—known as 'Zoombombing'. This problem arose in AVL sessions during the coronavirus pandemic, and led to Zoom improving its password and hosting controls. Privacy problems such as these, and the fact that Zoom sessions can only last for 40 minutes without cost, have made the use of Zoom for some situations less desirable than other platforms (Ansaldo 2020).

Jabber

Another type of videoconferencing software that has been used in Australian courts is Jabber. In 2015 the Magistrates' Court of Victoria began using Cisco Jabber Video Software to support pre- and post-court hearings between lawyers and clients appearing from custodial facilities (Magistrates' Court of Victoria 2015). Jabber is also available for external participants in AVL sessions at the County Court of Victoria, although this court now prefers Webex. Jabber, however, is more suitable for messaging and supports mobile access, and allows users to work collaboratively and share documents. Jabber supported the rollout of IP-based AVL systems in all registries between 2013 and 2014 (Family Court and Federal Circuit Court of Australia 2014: 4–5). It has been described as a cost-effective alternative to travelling to court, as it enables 'people outside of the courts to connect to the court's IPVC [Internet Protocol Video Conferencing] system using their own PCs or laptops at a minimal cost providing they have a webcam and broadband internet connection' (Family Court and Federal Circuit Court of Australia 2014: 4).

Webex

A number of government agencies have begun using Cisco's Webex Meetings software for videoconferencing since the onset of the coronavirus pandemic. In Western Australian courts, Webex meetings can be initiated by court administrators and external users can access videoconferencing through internet connections using laptops or mobile devices at no cost (District Court of Western Australia 2020). Webex also enables screen sharing and file sharing during sessions as well as interactive presentation tools that could be useful for expert witnesses in court. Webex also allows for presentation streaming, electronic hand-raising, record and playback facilities and private chat. All communications have end-to-end encryption and administrators can remove data if devices are lost.

AVL use in the criminal courts in 2017

During the fieldwork conducted for this study in 2017, it was difficult to determine with accuracy the extent to which AVL technologies were being used in criminal courts in Australia. Although most courts and correctional facilities had some type of AVL systems in operation, inconsistencies in the way that courts document the use of such technologies, if they keep records at all, meant it was difficult to compare the way in which these technologies were being used within and between jurisdictions. The following discussion presents the limited information available from official sources, supplemented by data obtained in interviews with court officials. Owing to the limited resources of court AVL administrators, and the AIC, it was decided not to seek downloads of entire datasets of AVL connections in the court hearings observed. Instead, it was necessary to rely on a convenience sample of AVL court observations to assess the nature and extent of AVL use in the various jurisdictions selected. As noted above, these were conducted in 2017, and provide a benchmark of information against which to measure the substantial changes evident during the pandemic of 2020. One of the most important changes that has occurred since 2017 was the widespread implementation of software-based AVL systems, often connected wirelessly, instead of hardware-based, cable-connected technologies. Although some courts, such as the Federal Court of Australia, maintain dual systems, the use of software-based technologies represents a great improvement on earlier technologies.

New South Wales

In New South Wales, over 400 courts, correctional facilities, and justice agencies had AVL technologies available in 2015 (Department of Premier and Cabinet NSW 2015: 83). Moreover, all the previous ISDN sites have been upgraded to IP-based sites, and 214 courtrooms had AVL systems in place at the end of 2016 (Department of Justice NSW 2016: 55). Videoconferencing has been used over 200 times to facilitate visits between prisoners and their families (Department of Justice NSW 2015: 10). Between 2010 and 2015, there was a 600 percent increase in visits (from 34 visits in 2010–11 to 207 visits in 2014–15) facilitated in this way (Department of Justice NSW 2015: 37).

By 2015–16, videoconferencing accounted for 64 percent (or *n*=54,456) of all court appearances for inmates in custody in New South Wales. Moreover, all inmates appearing in front of the State Parole Authority did so via AVL. This represented an increase of more than 21 percent from 2014–15 (Department of Justice NSW 2016: 86). Videoconferencing is also being increasingly used by lawyers in their interactions with their clients. In 2015–16, videoconferencing between lawyers and inmates accounted for over 31,200 interviews—an increase of 57 percent from the previous financial year. In addition, approximately 63 percent of legal visits with adult detainees were conducted via videoconferencing (Department of Justice NSW 2016: 86).

New South Wales has also used AVL technologies to protect vulnerable participants in the justice system including child victims of abuse and sexual assault. In March 2016 a Child Sexual Offence Evidence Program commenced in the District Court in Sydney and Newcastle to allow the entire evidence of a child victim to be recorded before the court proceedings, and for impartial 'Children's Champions' to help make sure a child witness can provide their best evidence.

In 2018 a four-year, $40m AVL implementation project was completed in New South Wales that expanded the AVL network between courts, correctional facilities and police stations. As at 30 June 2018, AVL capacity was available in 266 court and tribunal rooms at 83 locations, and during 2017–18 approximately 143,685 adult court detainee movements were avoided due to the use of AVL for court appearances, professional interviews and family visits (Department of Justice NSW 2018).

Victoria

Videoconferencing has become a fixture in criminal courts and correctional facilities across Victoria. New high-definition systems have been installed in a number of courts and existing AVL facilities have been upgraded from ISDN to IP-based systems in many Victorian courts.

In 2019 new AVL systems were introduced in the Supreme Court of Victoria (2019), including large ultra-high-definition screens for the presentation of evidence, widespread remote access for witnesses, wireless and cabled connectivity from the bar table for evidence presentation, touch-screen monitors in the witness box, livestreaming and on-demand webcasting capabilities, and digital audiovisual recording. As at 30 June 2019, six of the court's courtrooms had been upgraded with state-of-the-art AVL technologies and all 31 courtrooms and three mediation rooms are scheduled to receive the upgrades by mid-2021. During 2018–19, 23 criminal sentences were live streamed with audio only and five with video (Supreme Court of Victoria 2019).

AVL technologies are now used extensively in the County Court of Victoria (2020). Webex is now generally used and AVL is also used for Circuit Court hearings. These hearings involve multiple connecting parties located in 11 regional locations in Victoria, with the presiding judge generally sitting in Melbourne. During the 2018–19 reporting period, approximately 800 circuit directions hearings and more than 200 appeal (first listing) hearings were conducted for cases committed to regional County Court locations (County Court of Victoria 2019). In 2018–19 the County Court of Victoria (2019) improved its AVL services by upgrading in-court technologies, improving links to jury and remote witness rooms, and enhancing writing tools and speech-to-text technologies to support the work of the judiciary.

There has also been considerable investment in AVL technologies in Victorian Magistrates' Courts in recent years, with the number of courtrooms furnished with AVL systems increasing from 23 in 2015–16 to 123 in 2018–19. This permitted 27,700 people to appear in matters from prison in 2018–19, easing pressure on transport and police cell occupancy, representing a 24 percent increase on 2017–18 (Magistrates' Court of Victoria 2019: 18). In 2018–19, 8,641 accused persons applied for an AVL order under ss 42L and 42M of the *Evidence (Miscellaneous Provisions) Act 1958* (Vic). AVL technologies have also been able to be used for family violence matters in the Melbourne Magistrates' Court since 2015 (Magistrates' Court of Victoria and Children's Court of Victoria 2015: 69). This enables remote AVL appearances by family members affected by family violence, thereby eliminating the need for victims to see the accused in person and removing the need for family members to travel to court from regional and remote areas (Magistrates' Court of Victoria 2015: 15, 69).

Queensland

Videoconferencing technology has been available in Queensland correctional facilities for more than 15 years (Queensland Corrective Services 2015). In 2015–16, AVL technologies operated in 71 court and 14 custodial facilities. There were 34 AVL systems in high-security facilities and two in low-security facilities. Approximately 61 percent of all court appearances by individuals in correctional centres (*n*=28,184) were carried out via AVL in 2014–15. This increased to 67 percent of all court appearances within correctional centres (*n*=35,795) in 2015–16. In terms of court appearances in general, 16,829 appearances were made using AVL in 2014–15. This increased to 22,415 in 2015–16 (Department of Justice and Attorney-General Qld 2016: 76; see Figure 2).

Figure 2: Brisbane Supreme and District Courts complex, 3rd courtroom

Note: Judge present with prosecutor (left) and defence (right) appearing remotely
Source: Paul Katsieris, in Tait et al. 2017: 32

In 2018–19 the Supreme Court of Queensland heard 21 matters in which at least one party appeared via AVL. It was reported that the quality of these links remained variable, with some problems being due to substandard facilities at the other end of the links, particularly in correctional centres.

In 2018–19 the AVL systems in a number of Queensland's Magistrates courtrooms were replaced and a substantial number of those courtrooms had their AVL systems improved. iPads were also rolled out to all magistrates in 2018–19. In the same year more than 28,000 court videoconferences with in-custody defendants in correctional centres were scheduled, and on average 70 percent of defendants in custody in a correctional centre that were required to appear for a court proceeding were scheduled to appear by AVL (Magistrates Courts of Queensland 2019).

Since 2014, AVL technologies have been available for Children's Court proceedings in Queensland, subject to the discretion of the presiding judicial officer. Research by Hutchinson (2021) found that the number of AVL appearances organised between the Brisbane Youth Detention Centre and the Children's Court rose from 10 percent in 2014 to over 47 percent of all appearances in 2018. In Townsville approximately 60 percent of appearances are currently conducted via AVL.

Western Australia

In Western Australia AVL technologies have been used extensively for court appearances since they were first introduced in 1996. In 2018–19 there were 28,817 AVL appearances between courts and prisons, totalling 4,316 hours of court hearing time. The total court appearances by persons in custody was 38,059, of which 75 percent appeared by AVL. During the year, 13,578 video links were made to locations other than prisons, totalling a further 3,629 hours of court hearing time. These other locations included other courts, hospitals, police courts, mining registries and other interstate and international locations. In 2019 the Department of Justice constructed a $3.1m video-link facility at Hakea Prison, the state's main male remand facility, which enables up to 130 prisoners a day to attend court hearings via video from within the prison, a cheaper and safer option than having them attend in person (Department of Justice WA 2019).

Since 2016 all of the Circuit Courts and 14 District Court Buildings in Western Australia have been equipped with AVL systems. Videoconferencing technology has played an important role in decreasing the number of individuals held in custody in Western Australia. Initiatives such as the Sunday Court, which is run from the Perth Police Centre, uses AVL to hear matters from regional police stations or hospitals throughout the state over the weekend (Department of the Attorney General WA 2015: 15). This eliminates the need for individuals to be detained in police stations until their court appearance on Monday morning. In 2015–16, 183 court matters were heard in the Sunday Court via AVL (Department of the Attorney General WA 2016: 14). Western Australia is also developing an app for smartphones that will enable audio calls to be available on AVL from any location. This would provide an alternative for lawyers and family members to appear in court from remote locations, including overseas. In 2018–19, web-streaming facilities were upgraded in the David Malcolm Justice Centre and the Supreme Court Stirling Gardens building to incorporate a delay functionality. This allows courts to ensure that any sensitive information is not streamed to the internet. In addition, two courtrooms in the Perth Children's Court were converted to integrated AVL courtrooms (Department of Justice WA 2019).

South Australia

In South Australia all custodial institutions and most community corrections centres are equipped with AVL technologies to facilitate court appearances, virtual family visits and pre-release interviews with community corrections staff. The number of individuals attending court appointments via AVL from custodial facilities has increased each year since 2012, with 29,582 appearances taking place using AVL in all South Australian Courts in 2018–19: 80 percent in Magistrates' Courts, eight percent in Youth Courts and 12 percent in the higher courts. Of the 3,469 higher court matters, 49 percent involved witnesses giving evidence via AVL, and the other 51 percent related to appearances from custodial locations (Courts Administration Authority SA 2019).

A number of pilot programs have also been established to examine the impact of videoconferencing technology on the court process. For example, in 2014–15 the Courts Administration Authority commenced a pilot program at Christie's Beach Magistrates' Court that allowed legal practitioners to appear in court remotely using AVL technologies from their private offices (Courts Administration Authority SA 2015a: 35). The aim was to reduce travel time and increase court efficiency (Courts Administration Authority 2015b: np).

In response to the coronavirus pandemic, in 2020 the South Australian Government committed $15m to overhaul AVL technology within the state's justice system. This included funding for new AVL facilities within the Youth Court and additional AVL units in both Corrections and SA Police (Attorney-General's Department SA 2020). During 2020 the South Australian Courts Administration Authority introduced Webex AVL technologies for criminal cases.

Tasmania

In Tasmania AVL facilities have been installed in the Magistrates Courts in Hobart, Launceston, Devonport and Burnie; Supreme Courts in Hobart, Launceston and Burnie; Risdon Prison; Launceston Prison; and Hobart Remand Centre (Supreme Court of Tasmania 2014b). Videoconferencing is also used to facilitate virtual family visits with prisoners (Department of Justice Tas 2015: 51). Videoconferencing facilities in the Supreme Court were upgraded in 2014 (Supreme Court of Tasmania 2014a: 17) and in 2019 a large program of work commenced to upgrade AVL facilities throughout the state. In 2019, funding was provided through the Solicitors' Guarantee Fund to set up a modern videoconferencing court in Hobart. Owing to the remote location of some courts in Tasmania, AVL facilities are of great importance. For example, most King Island courts are operated by AVL, although a magistrate sits in person on King Island when required (Magistrates Court of Tasmania 2019).

Australian Capital Territory

The ACT Magistrates and Supreme Courts use AVL technologies extensively for criminal matters. According to the Court Technology Officer in 2017, the ACT Supreme Court had five AVL-enabled courtrooms available for videoconferencing and the Magistrates Courts had 10 courtrooms with AVL capacity. One of the five AVL-enabled courtrooms was shared by the Magistrates and Supreme Courts. In addition, there were five remote witness rooms from which vulnerable witnesses could give their testimony via AVL to the court, with one of these off-site for those witnesses deemed too vulnerable to be near the courts during proceedings. The ACT Government is continuing to upgrade the Magistrates and Supreme Courts and, when complete, eight courtrooms in the Supreme Court and 11 in the Magistrates Courts will have AVL capacity. In 2019 there were seven remote witness rooms on-site and one remote witness room off-site (Magistrates Court of the Australian Capital Territory 2019).

In June 2018 the retrial of David Harold Eastman for the murder on 10 January 1989 of Colin Stanley Winchester was held over 87 days, with the jury returning a verdict of not guilty. During the retrial, evidence was presented from over 180 witnesses either in person or by AVL from locations around Australia and internationally. Nearly 300 exhibits were tendered during the retrial. Due to the large volume of material, this evidence was managed digitally using an electronic litigation system and displayed on screens around the courtroom. This use of technology greatly enhanced access to information by the parties and the jury and reduced the volume of physical material that would otherwise have had to be managed (Supreme Court of the Australian Capital Territory 2019).

Northern Territory

The Northern Territory has installed AVL technologies in a number of its correctional facilities and courts. These include the Darwin Supreme Court, Darwin Magistrates Court, Alice Springs Court House, Katherine Court House and Tennant Creek Court House (Supreme Court of the Northern Territory 2008: np). Additional facilities have been installed in Nhulunbuy, Alyangula and Nichols Place (Department of the Attorney-General and Justice NT 2014: 57). In 2014–15, Project RHESSI was established with the aim of establishing 40 AVL facilities in regional and remote police stations to courts in Darwin, Alice Springs and Katherine. The purpose was to reduce the costs associated with transporting defendants and witnesses to court from remote areas (Department of the Attorney-General and Justice NT 2015: 30). In addition to this, Project Zola was commenced by Court Support Services in 2015–16 to facilitate court proceedings from a number of remote locations. The aim of this was to assist vulnerable witnesses so that they did not need to be moved from their communities and support networks to travel to court and give evidence in family violence cases (Department of Attorney-General and Justice NT 2016: 58). As part of Project Zola, AVL facilities were established in six remote communities—Borroloola, Wadeye, Tennant Creek, Yuendumu, Alyangula and Lake Evella—and have provided increased protection for vulnerable witnesses in civil and criminal court proceedings. Alyangula and Lake Evella are the latest sites to have AVL facilities installed (Department of Attorney-General and Justice NT 2019: 64).

Types of proceedings in which AVL technologies are used

AVL technologies are used by a diverse range of people involved in criminal justice processes, including accused defendants, convicted prisoners, lawyers, witnesses, court interpreters, judges and magistrates, correctional administrators, treatment providers and family members and friends of defendants. As indicated in Table 2, however, and on the basis of the court observations conducted, AVL technologies are most often used for short, procedural and administrative applications made by defendants and prisoners held on remand in correctional centres. On occasions, multiple defendants can appear via AVL from different correctional centres, which clearly increases the efficiency of the courts. Increasingly, as the quality of technologies improves, AVL is being used for witnesses to give evidence from remote locations, as well as lawyers and prosecutors who may be located in other courtrooms, or their own offices. At present, few bail applications and sentencing hearings are conducted using AVL, as there is a clear benefit in appearing in person for such important matters. During consultations in Queensland conducted for the Law Council's Justice Project in 2018, concerns were raised about sentencing remote prisoners via AVL:

> Sentencing via AVL was viewed as problematic because it dehumanises the court process and exacerbates community disengagement with the justice system, especially for Aboriginal and Torres Strait Islander peoples. (Law Council of Australia 2018: 79)

In other research, Rowden, Wallace and Goodman-Delahunty (2010), after conducting interviews with 56 judicial officers, court administrators, court staff, justice department officials, prosecutors, witnesses and lawyers, concluded that the effects of AVL technologies on sentencing practices are complex, but that systems can be devised that will not compromise the critical features of sentencing proceedings. In particular, Rowden and colleagues (2010) emphasised the need for courtrooms that have AVL systems to be carefully configured to ensure that participants are perceived in a fair manner, and that the protocols for using AVL when sentencing are designed to protect the interests of the various parties involved, including family members, victims and third parties with an interest in the proceedings. In particular it is suggested that:

> …careful attention to both the technological environment (quality, set-up and operation) and to the built environment in which it operates might ameliorate many of the preliminary expressed concerns about videolinked sentencing in Australia. Information, training, and explicit attention to operational protocols that govern the way videolinks are managed, and the way that remote participants are informed and oriented to those proceedings, will assist in this transition. (Rowden, Wallace & Goodman-Delahunty 2010: 383–4)

Turning to the court observations undertaken in the present study, Table 2 sets out details of the types of proceedings observed in each jurisdiction in terms of a number of salient factors.

Table 2: Summary data relating to extent of AVL usage in courts observed

Jurisdiction		NSW	Vic	Qld	WA	SA	ALL (*n*)	ALL Mean
Proceeding type (no. of cases)	Procedural[a]	21	21	18	41	33	134	27
	Bail	2	1	0	0	14	17	3
	Hearing[b]	2	3	9	7	10	31	6
Mean AVL[c] proceeding duration (mins)	Procedural	7	10	4	6	5	32	7
	Bail	19	7	na	na	10	36	7
	Hearing	10	29	48	27	8	122	24
	All	7	12	19	16	6	61	12
Mean AVL[c] actual speaking duration (mins)	Procedural	6	9	4	6	5	31	6
	Bail	19	7	na	na	10	36	7
	Hearing	10	29	46	27	7	120	24
	All	7	12	18	16	6	59	12
Prerecorded witness evidence	*n*	0	0	1	2	0	3	1
(Cases with AVL)	%	0	0	4	4	0	8	2
AVL evidence from witnesses	*n*	0	2	0	4	1	7	1
(Cases with AVL)	%	0	8	0	8	2	18	4
AVL from lawyers/ DPP	*n*	0	7	0	1	3	11	2
(Cases with AVL)	%	0	28	0	2	5	35	7
AVL evidence from prisons (Cases with AVL)	*n*	25	16	26	42	43	152	30
	%	100	64	96	88	75	423	85
Unrepresented defendant	*n*	8	2	3	6	3	22	4
(Cases with AVL)	%	24	8	11	13	5	61	12

a: Procedural includes mentions and adjournment applications
b: Hearing includes trials, formal applications, judicial reviews and sentencing
c: Proceedings with AVL includes prerecorded evidence (not live)
Note: na=not applicable
Source: AIC Court Observations data file

From Table 2 it is apparent that the AVL hearings observed took, on average, 12 minutes, with short procedural applications sometimes occupying only minutes, while hearings in which witnesses give evidence via AVL can occupy an hour or more. In the proceedings observed, the vast majority involved defendants on remand appearing from correctional centres connected to Local or Magistrates Courts. Most accused were legally represented, sometimes with their lawyers being present via AVL from other locations. In a small percentage of matters, prerecorded video or audio evidence was presented to the court and defendant using the AVL system—and in these cases the quality of recordings was much worse than in live AVL proceedings from correctional centres. Similar numbers of matters made use of AVL in the different jurisdictions studied, although the current research involved a convenience sample in which observations were made in available courtrooms at the time, rather than attempting to arrange representative, matched samples of matters across jurisdictions.

Benefits of AVL technologies

There are a number of challenges that individuals located in remote areas of Australia must overcome to participate effectively in the judicial system. If individuals from geographically isolated regions are appearing as witnesses in court proceedings, they may have to deal with travel expenses to and from the court, costs for meals throughout the trial, finding child care for any dependants, loss of income (particularly if they are self-employed) and finding accommodation if the court proceedings are a substantial distance from their normal place of residence (Office of the Director of Public Prosecutions WA 2016: np). While witnesses are generally reimbursed for some of these expenses, the reimbursed amounts may not fully compensate for the time they spent away from their working, familial and social surroundings. Moreover, restitution for lost wages may not fully cover the amount of money that was actually lost.

Allowing witnesses to appear via AVL reduces the disruption and inconvenience often experienced by witnesses who live interstate or in a regional or remote area (Rowden et al. 2013). It also enables witnesses from overseas to appear in Australian court proceedings without having to undertake lengthy and costly international travel. For example, videoconferencing was used in *Debras v R Rustom v R* [2007] NSWCCA 118 [39] (30 April 2007) to allow a witness to give evidence via AVL from a prison in New Zealand.

In *R v TI (no. 2)* [2015] ACTSC 208 (16 June 2015), the prosecutor in a case involving acts of indecency with three adults and one child and other offences applied for one of the complainants' evidence to be given by AVL from Singapore or, alternatively, for her to be declared 'unavailable' for the purpose of s 65 of the *Evidence Act 2011* (ACT), which might have permitted her police statement to become evidence in the trial. The Crown relied on r 6703 of the Court Procedures Rules 2006 (ACT) and the Vienna Convention on Consular Relations in its first application. Justice Penfold considered that the Rules did not confer an independent power to take AVL evidence from overseas in criminal proceedings, and that if taking evidence for Australian court proceedings was a consular function contemplated in the convention, evidence would need to be taken having regard to Singaporean law and agreements between the two countries. However, the Crown withdrew its application before her Honour made a ruling, because compliance with requests made by Singaporean authorities would have delayed the trial.

Videoconferencing has also been used in a number of jurisdictions as a way of eliminating the costs associated with transporting prisoners from their place of remand to the court (Batastini, McDonald & Morgan 2013: 255, 266; Committee on Videoconferencing 2005: 24; Forell, Laufer & Digiusto 2011: 2). Indeed, AVL is regularly used in some jurisdictions to enable prisoners to attend court proceedings from custodial settings for pre-trial hearings, remand hearings and bail applications (McKay 2018; Wallace 2008b). In Queensland and New South Wales, prisoners can also apply to the Parole Board for parole via AVL (Department of Police and Justice NSW 2014: 82; Queensland Parole Boards 2015: 10). AVL facilities have also been installed in several other correctional facilities and courtrooms around Australia to ease the administrative burden on lawyers and to assist in addressing the increasing number of prisoners coming before the courts. In addition to this, AVL has been used to maintain contact between prisoners and their families, and as a means of enabling prisoners to engage with service providers and support agencies (Queensland Corrective Services 2011: 1). In particular, since the onset of the coronavirus pandemic, AVL has been used regularly in a number of prisons throughout Australia, allowing inmates to communicate with lawyers, family and friends without physically having to leave places of detention.

Following extensive improvements made to AVL facilities in New South Wales between 2014 and 2018, research was undertaken by the NSW Bureau of Crime Statistics and Research to measure the impact of the new or upgraded AVL technologies in local courts in New South Wales on prison transport costs. It was found that there were statistically significant reductions in face-to-face appearances and associated transport costs for local courts where new AVL facilities had been installed (Donnelly 2018). In total, the introduction of a new AVL facility resulted in 2,271 fewer face-to-face appearances and $459,501 in prison transport costs avoided during the post-AVL follow-up period (Donnelly 2018).

The sophistication of AVL systems was apparent in some of the cases observed. In two Supreme Court matters heard in the District Court in Perth, maps and photographs were shown to police witnesses on one screen and they were able to zoom in on the images to indicate specific locations on the maps. Jurors were also able to see these images and the features identified. On both occasions the quality of the visual images was very high and the detail readily apparent. In such situations, the use of AVL could be seen as improving the overall court experience for those involved. Recent technological advances now permit participants to mark up copies of documents or photographs tendered, a facility that can be important in complex cases involving disputed evidence.

Particular attention has been focused on the use of AVL technologies to increase the efficiency and effectiveness of courts by reducing the amount of time lawyers, police and members of the public spend waiting to be cleared by court security or called to give evidence.

Police appearances via AVL have been welcomed as a means of not only saving money in terms of travel costs and overtime but also reducing the time police spend in court waiting to be called to give evidence (McKay 2018; Ralston 2014). Indeed, a study by Wallace (2013) that involved analysing Victoria Police Forensic Department records from between 21 May 2008 and 31 January 2010 found substantial reductions in the amount of time that police witnesses spent travelling, waiting and giving evidence in court as a result of using AVL technologies. For instance, it was found that, out of 227 court proceedings, the Victoria Police Forensic Department took an average 6.2 hours per case to give evidence. Of this, only 1.01 hours was spent in the witness box, while 5.27 hours were spent travelling and waiting to be called to give evidence in the court proceedings. In contrast to this, out of 90 court proceedings conducted via video link, only 0.95 hours per case was spent giving evidence (Wallace 2013: 232). These time and costs savings are equally applicable to lawyers, who have also found AVL to be particularly beneficial for legal consultations with clients. Another benefit of AVL is a reduction in the risk of physical confrontation with violent offenders. Indeed, AVL allows the court to engage with these individuals remotely without the threat of harm to members of the court (Figgis & Simpson 1997: 6–7; McDougall 2013: 5).

In addition to the benefits outlined above, the use of AVL technologies in courtrooms has a number of benefits for vulnerable witnesses such as children, the intellectually disabled and victims of sexual assault (Attorney-General's Department NSW 2005: 106; Cashmore & Trimboli 2006; McDougall 2013: 5). Providing witnesses with the option to appear via AVL has been found to reduce the likelihood of the witness experiencing secondary victimisation associated with seeing, hearing or being in the physical presence of the defendant (Wallace 2008a: 208; Wallace 2008b). In another experimental study, the mode of giving evidence in sexual assault cases (face-to-face, CCTV or prerecorded video evidence) was not found to meaningfully affect jury outcomes (Taylor & Joudo 2005).

Each state and territory in Australia has developed legislation that enables vulnerable witnesses in sexual assault cases to testify against their alleged attacker via some form of AVL technology rather than in person (see Rowden et al. 2013). In Victoria and the Australian Capital Territory, providing evidence in this way is mandatory for these types of cases. In Victoria, s 363 of the *Criminal Procedure Act 2009* (Vic) states that witnesses in a matter involving a sexual offence must give evidence from outside the courtroom unless the prosecution applies for them to give their evidence in person. Complainants must be aware of their right to give evidence via AVL and be happy to appear in person in order for the prosecution's request to be agreed to by the court. In the Australian Capital Territory, s 43 of the *Evidence (Miscellaneous Provisions) Act 1991* (ACT) states that complainants must use AVL to give evidence if the proceeding involves a sexual offence, a serious violent offence or a less serious violent offence involving a vulnerable witness. In addition, in November 2020 the New South Wales Parliament passed the Stronger Communities Legislation Amendment (Domestic Violence) Bill 2020, which amends the *Criminal Procedure Act 1986* (NSW) by giving complainants in domestic violence criminal proceedings, and apprehended domestic violence order hearings arising from the same circumstances, a prima facie entitlement to give evidence in closed courts and remotely via AVL (Department of Communities and Justice NSW 2020).

The use of videoconferencing for vulnerable adult witnesses is, however, contentious. Some commentators have argued that the use of such technology helps to produce better quality evidence because witnesses are less stressed than they would be if they were providing evidence in person (McKay 2018). Others believe that a distraught witness in the courtroom provides very compelling evidence against the accused, and that AVL only provides a two-dimensional view of the witness that lacks the raw emotion often displayed when the witness appears in person (Hurley 2013: 18). Similar arguments have been made in relation to child witnesses (Cashmore & Trimboli 2006). Several studies from Europe, the United States and Australia examining juror perceptions of credibility associated with a child's testimony have found that the credibility of children who testified via CCTV was perceived in a negative way (Eaton, Ball & O'Callaghan 2001; Landstrom, Granhag & Hartwig 2007; Orcutt et al. 2001). Indeed, Eaton and colleagues (2011) found that the use of alternative methods for presenting evidence such as AVL reduced guilty verdicts, and Landstrom and colleagues (2007) found testimonies given in the courtroom were viewed as more trustworthy and more likely to be recollected by observers than evidence that was provided remotely. In Australia an experimental study of juror perceptions by Taylor and Joudo (2005) found that the mode of giving evidence in sexual assault cases (face-to-face, CCTV or prerecorded video evidence) did not meaningfully affect jury outcomes.

Problems with AVL technologies

Despite the benefits of using AVL technologies in the courts, the systems are not, as yet, flawless. Technical and administrative problems have arisen most often in older courts and prisons that have had AVL systems retrofitted to often not entirely suitable buildings. In many cases installing cameras, cables and monitors in 19th-century courtrooms with heritage overlays presents difficult and costly problems. Wireless systems have solved some of these concerns, although data transmissions through thick stone walls often means that multiple unsightly, wired modems must be used inside courtrooms. In addition, all systems are subject to the operation of electricity and network connections, over which courts and correctional agencies sometimes have no control. In Australia the Gateways to Justice project (Rowden et al. (2013) provided a comprehensive analysis of the technological and design aspects of AVL usage in the courts and identified guidelines for the design and construction of remote court facilities and AVL systems in courtrooms. These recommended standards sought to ensure that, from a technological and design standpoint, the use of AVL in courts could operate not only efficiently but also fairly for all participants involved.

During the court observations undertaken for the present study, in one Supreme Court matter at the Perth District Court, witnesses at a facility in Ravensthorpe were unable to give evidence due to a local power failure, with the AVL proceeding having to be adjourned to the following day. Problems arising from software also arose that required those operating the systems to have high levels of expertise or access to IT professionals. Other technical problems have included 'link stopover', where AVL connections fail for various reasons; 'address book failure', where the electronic list of AVL sites to be connected is lost; and over-booking, where some AVL proceedings exceed the booked time slot and alternative connections need to be used.

On a positive note, the latest systems used in the sample of courtrooms observed were seen to operate, on the whole, seamlessly, with serious problems occurring in less than seven percent of matters observed (see Table 3). Most courtrooms have access to trained IT technicians who can assist with AVL problems, although, of course, if problems emanate from locations outside the court they may be more difficult to solve.

At the David Malcolm Justice Centre in Perth, two technicians are available at all times, and there is remote access to all the AVL systems from a central control room (Figure 3).

Figure 3: Central AVL control room, Perth

Source: Rohan Venn Photography, 5 September 2017

Arguably of greater concern are some of the practical and logistical problems of scheduling hearings and ensuring that all the participants are present in front of an AVL camera and monitor exactly when required. In the case of correctional settings, this can be difficult to achieve as defendants and prisoners need to be brought from other locations in prisons to AVL centres with security measures in place and privacy needs to be secured so that other individuals cannot overhear what is being said during court appearances. In some locations, those wanting to use the limited number of AVL booths available have to endure long hours waiting for their few minutes online to occur. McKay (2018: 74) noted this as follows:

> Prior to and following a video link session, prisoners are kept in holding cells located near the video studios, often spending protracted periods of time in these spaces. The holding cells I observed were compact spaces fitted with detention-grade metal benches and no amenities other than an open toilet and basin.

McKay (2018: 74) went on to observe about the prisoner's experience when eventually undertaking the AVL session:

> When a prisoner is spatially isolated in a small, bland video studio within a larger carceral context, the message is that they are undeserving of participating in their own legal proceedings.

In one case observed during the current study, the AVL technology was functioning in the court but the prisoners could not leave their cells due to a lockdown following an incident. Waiting for an AVL facility to be available is, however, better than having to travel to remote courtrooms, which can occupy a full day, including travel time, for a brief appearance before a court. In two Magistrates' Court cases observed in Melbourne, the defendants failed to appear on AVL for almost an hour in each case. However, during this period the magistrate was able to deal with other matters that were ready to proceed.

Other problems were identified during observations of AVL proceedings in Queensland that have relevance beyond this jurisdiction. In two matters the wrong prisoner was brought in for an AVL hearing at the Brisbane Magistrates Court and another at Ipswich Magistrates Court, resulting in adjournments occurring. In another case, three defendants with the same surname were brought into the wrong AVL proceedings at Beenleigh Magistrates Court. Unless the defendant is asked to confirm his or her name, which sometimes does not occur, the proceedings could be undertaken in respect of the wrong accused. Other mistakes arose when a Queensland magistrate mistakenly read the wrong charge against a defendant, and when through an audio lapse in the AVL system the defendant pleaded guilty, believing that this was what the magistrate had ordered him to do. Although such errors can also occur in non-AVL proceedings, the likelihood of such errors occurring may be higher when using AVL.

During actual AVL sessions, problems also arose with the standard of audio and video transmissions, as well as the location and focus of cameras (both at immediate and remote sites), and the presence of background noise, particularly in congested prison settings. Lawyers who wish to have private AVL conferences with their clients can find it particularly difficult when others can overhear conversations, or they need to speak from within courtrooms (Transform Justice 2019). On occasions, recording of sessions will be stopped during such discussions, but it is clearly less than desirable to have a client conference in the presence of the prosecution and other court parties. In one AVL matter heard in Beenleigh Magistrates Court, the defendant appeared via AVL prior to the preceding case concluding, thus allowing him to overhear the other matter. Magistrates are aware of these risks, and in one case heard in the Melbourne Magistrates' Court the magistrate asked the witness to confirm that he was alone in the AVL booth and that no-one was able to hear his evidence.

McKay (2018: 80) was critical of what she called 'the soundtrack of incarceration', noting:

> The cacophony of prison sounds from the nearby holding cells is also being transmitted to remote courtrooms… [One prisoner stated] 'It does bother you 'cause they [the court] can hear it, they can hear all the screaming and yelling that's going on in these holding cells 'cause it's just there'.

Turning to what occurs in the AVL courtrooms themselves, Table 3 presents summary data obtained during court observations on the extent to which problems were present in the use of AVL technologies in the courts observed. These data relate to the year 2017, and since then a number of courts have continued to upgrade their AVL systems and court buildings. There are also considerable differences in the quality of systems that operate in different court jurisdictional levels, as well as between city, suburban, regional and remote facilities. The observational findings have been classified and presented in Table 3 in somewhat broad categories such as image, audio and administrative problems, of a serious or minimal kind. Examples of serious problems are where the participant in the AVL session cannot be heard or seen at all or where the wrong person is in attendance. Examples of minimal problems are where the participant's image is located to one side of a screen, or there is some background noise present, or where minor delays occur in commencing the session.

Table 3: Problems present in the use of AVL proceedings during court observations

Jurisdiction		NSW	Vic	Qld	WA	SA	ALL (*n*)	ALL Mean
AVL proceedings with some problem	*n*	20	17	10	40	43	130	26
	%	80	68	37	83	75	343	69
AVL proceedings with no problems	*n*	5	8	17	8	14	52	10
	%	20	32	63	17	25	157	31
AVL proceedings with image problems (%)	Minimal	36	12	7	25	30	110	22
	Serious	12	0	4	8	5	29	6
	All	48	12	11	33	35	139	28
AVL proceedings with audio problems (%)[a]	Minimal	36	56	19	42	58	210	42
	Serious	12	0	0	10	11	33	7
	All	48	56	19	52	69	243	49
AVL proceedings with admin problems (%)	Minimal	12	48	26	0	2	77	15
	Serious	4	4	4	4	7	23	5
	All	16	52	30	4	9	100	20

a: Audio problems include loud background noise impeding hearing
Source: AIC Court Observations data file

In the proceedings observed in all states visited, some problems were evidenced in 69 percent of cases heard. Problems with visual images occurred in approximately 28 percent of cases and problems with the audio quality in almost half of the cases observed. Serious problems were much less frequent, with serious visual issues occurring in approximately six percent of cases and serious audio issues in seven percent. Serious problems arose, for example, in the Supreme Court in Sydney when the defendant at Long Bay Prison was unable to see or hear those in court clearly and the connection kept dropping out. Similarly, in the Central Local Court in Sydney the defendant located in Kempsey could not see the court properly as the right side of the screen had a blue shadow and the image pixilated and froze. On a number of occasions, cameras where poorly aligned so that the individual in question, be they at court or in prison, had only a partial or distorted view of the other parties.

In some cases, AVL technologies were used to present prerecorded testimony from witnesses not actually present during the live hearing. These video recordings, sometimes of interviews conducted at police stations, tended to be of poorer quality than live AVL sessions, with blurred images, poor lighting and low audio volume. These problems could not be solved during the hearings as the recordings were not live. In one matter heard in the Perth District Court, a video interview with the defendant that had been prerecorded at a police station contained evidence later ruled to be inadmissible. Although the evidence in question had subsequently been edited out of the recording, because it had already been seen by the jury, the trial was aborted on the application of the defence.

In other hearings, judges or magistrates did not have a sufficiently 'close' relationship with the defendant in the AVL system. Some magistrates did not look at the defendant's camera at all when addressing the court, leaving the defendant unclear as to what was occurring. However, in the 22 cases observed in which the defendant was unrepresented, most judges and magistrates were found to be highly engaged with the defendant and went to great lengths to ensure that the person understood what was taking place. In some cases it was apparent that magistrates needed better training in how best to make use of the AVL technologies to establish an appropriate relationship with the person on the remote AVL session.

Conclusion

This report has shown that AVL technologies in criminal proceedings in Australian courts are now widely used, most often in short procedural matters such as administrative mentions regarding listing and adjournments, plea and bail hearings and simple sentencing proceedings. The benefits in terms of case flow and cost savings due to avoidance of the need to travel to courts have been clearly established. The use of AVL systems also provides litigants with improved access to the courts, which is particularly beneficial for those residing in remote communities in Australia. Based on the research undertaken for this report, a number of issues have arisen that remain to be addressed if the benefits of AVL in the criminal courts are to be fully realised. In 2020, during the coronavirus pandemic, the use of AVL in courtrooms increased considerably in order to restrict the number of people congregating closely together. The AVL facilities available in many courtrooms are now approaching an acceptable level of technological efficiency, but the logistics of ensuring that people are located in AVL suites at the desired time of the session continue to be problematic. The pandemic has exacerbated this problem as most courts now rely on AVL systems almost exclusively. As the demand for AVL sessions continues to grow, the pressure on the availability of courtrooms equipped with suitable facilities and remote locations with private and adequate spaces for participants will also increase.

There is, in addition, an urgent need for improved record-keeping in relation to the extent to which AVL technologies are used in criminal cases in Australian courts. Systematic records of AVL usage are not routinely kept by Australian criminal courts. Indeed, many courts do not maintain records of the use of AVL technologies at all. In an effort to improve the record-keeping of courts in this regard, as far back as 2013, Rowden et al. (2013: 127) drafted a template that courts could use to assist them in collecting data about the use of AVL technologies in the cases that come before them. Rowden et al. (2013) suggested that these data could be used to identify locations in Australia that might benefit from the introduction of these types of systems, or the increased use of such technologies. Consistent and more accurate record-keeping by the courts would also inform state and territory governments about how they could better allocate resources, and assist them to predict the amount of funding they might need to allocate in order to maintain the integrity of the equipment. In addition, it is suggested that witness appearances should be electronically queued, with participants waiting online for an automatic entry to their court proceeding. This would improve administrative efficiency.

Potential solutions to these problems will most likely lie with technological improvements in which individuals will be provided with electronic tablets connected wirelessly that can be used from remote custodial locations (even prison cells), witnesses' offices, legal practices and home offices. Security and management of these devices, which can easily be damaged, stolen or compromised, will create new challenges for those managing AVL facilities (see Kerr & Willis 2018). Data capacity and speed restrictions will also arise, as will the cost of providing and maintaining connections and devices to all who require them. This may then lead to the costs of using AVL technologies being pushed from court administrations to users, with the risk that those unable to pay these costs will be deprived of the benefits of using AVL technologies (Law Council of Australia 2018).

Further research is needed to understand the extent to which the use of AVL technologies has made criminal proceedings more efficient, more cost-effective, fairer and more just for all involved. To date, policymakers have focused on the economic and administrative benefits of AVL technologies, particularly in connection with linking individuals in detention with courtrooms for procedural matters in the lower courts. Now that AVL technologies in many jurisdictions have generally reached a higher level of maturity than in the past, pressure will mount to expand their use for full criminal trials, sentencing hearings and parole hearings. This will also improve access to justice for those living in remote communities. Questions have also been raised about the appropriateness of using AVL technologies for vulnerable people with mental health problems or learning disabilities and for children (Equality and Human Rights Commission 2020; Gibbs 2017; Hutchinson 2021). It is in these types of proceedings, where the subtleties of human communication are paramount, that the use of AVL needs greater scrutiny.

The research findings presented in this report provide a timely benchmark of the implementation of AVL technologies in the criminal courts in Australia shortly before the onset of the COVID-19 pandemic. Replication of the current study as the pandemic continues and resolves will help to show how the technologies can adapt to change and provide improved access to the courts in a safe and efficient way. Further research may also reveal some of the difficulties that an extensive increase in case load has created for those administering criminal justice in distributed courtroom settings.

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