



GATEWAYS TO
JUSTICE II
GUIDELINES FOR
USE OF VIDEO IN
JUSTICE HEARINGS

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This report examines some of the issues courts and tribunals encountered during the coronavirus crisis as they made increasing use of video technologies, and reports on the lessons they learned in response to the challenges faced. It raises a number of issues that courts will address in the medium and long-term as digital technologies are incorporated into many aspects of court business.

Moving to making greater use of virtual court facilities presents a number of technological, design, and procedural issues. There are a range of technologies available, or being developed, that could potentially support virtual court facilities, ranging from smartphone apps to telepresence suites. The design of rooms, virtual rooms and networks need to reflect the need to support effective communication and create the desired level of formality and respect. But just changing technologies and room layouts will not be enough to make most effective use of video facilities, as many courts are discovering. Processes may need to be streamlined and simplified, information sharing digitised and the roles of court staff, legal professionals and decision makers adjusted to support the new system.

Given the impetus towards virtual courts during the pandemic, there is likely to be ongoing pressure on courts to make extensive use of video technologies, with the objectives of reducing costs, clearing backlogs of cases and avoiding excessive pressure on courtroom spaces. There is likely to be pushback from those concerned about the impact such changes could have on fairness to individuals and openness of the courts. The balance between these two competing forces is likely to lead to various hybrid solutions in which some parts of a justice process occur fully online, asynchronously, (like filing documents or scheduling); others involve hearings in which video is used to bring in some or all participants to the hearing, while others will have all the participants together in the same room. Where the line is drawn between these different sorts of process will depend on matters like: public expectations, the extent to which the process involves fact-finding or evidence-testing, seriousness of the consequences flowing from the hearing and preferences of the parties.

EXECUTIVE SUMMARY

Part 1 of this report discusses some of the **design issues** involved in creating a virtual court, including the ideal form such a court might take as well as the use of virtual environments or backgrounds. We consider the way physical courtrooms might be re-configured to accommodate multiple remote participants, the appropriate design for a fully virtual courtroom including one arrangement that can support eye contact and directional sound cues, and layouts for single screen arrangements providing 'gallery style' views of other participants. We suggest how the judicial officer, parties and witnesses should be placed in each of these configurations, and how remote facilities might be arranged to create the required impression.

Part 2 suggests some **modifications of procedure and ritual** to ensure effective participation. We suggest that a virtual hearing should provide the participants with an orientation to the process as well as a waiting room where users could be reminded about court etiquette, and updated on the status of their case. Court or tribunal users might be given access to a private space for consultation with counsel, family or support team. The judicial officer (or a member of the court staff acting on their behalf) should initiate the hearings with a countdown timer to allow participants a few moments to ready themselves for this transition.

Judicial officers, court staff (if visible on screen) and legal professionals should in general adhere to a professional dress code, appropriate to the jurisdiction. They might also limit the amount of informal, or 'backstage' discussion with other professionals, while increasing the amount of 'pre-formal' talk to create a more inclusive atmosphere .

The judicial officer can help other participants feel 'present' at a hearing, by providing a general welcome ritual, acknowledging the presence of each active participant (and where relevant, their family and friends), regularly checking that the technology is still working as well as that participants can follow what is happening, and thanking participants for taking part. Furthermore, a hearing could begin with an acknowledgement of country. There should also be regular short breaks in the procedure, including comfort breaks or time for private consultation. The sessions should be shorter than those scheduled for in-person hearings. A virtual break out room could be provided after the hearing for a range of matters including providing a 'virtual family visit' for a person in custody.

Part 3 identifies **challenges and opportunities that the video conference technology presents** and provides recommendations on how to deal with technological disruption. We recommend that where a virtual hearing includes more than one remote party that judicial officers should be given the option of a three screen video conferencing unit. The screens could be used to support an immersive virtual hearing (if the other sites had similar facilities). Alternatively, it could allow the judge to navigate between several windows, including those used for documents and filing, while using one or more windows to display the speaking participants. This arrangement could be used regardless of whether the judge is on the bench, at another table in the courtroom, in chambers, or indeed at home.

To ensure consistently high bandwidth, courts may wish to consider extended hours, for instance starting at 8am. Participants who are not active at a moment could switch to audio only, and the number of visible participants in a hearing should be minimised. The number of video hearings managed on a network at one time should be limited.

The court should carry out internet speed test at the location of each participant just before the hearing is due to start; if it is not up to a specified standard, the hearing should switch to phone-only or be adjourned. A help line should be available for courts and users to access during hearings, and should have an alternative platform available to switch to in case the main platform ceases to work. The court should ensure they have the email addresses and phone numbers of participants so an invitation can be sent to them to access an alternative platform or to inform them about a deferral of the hearing. The participants should be notified at the beginning of the hearing of the procedure to be employed in case of technical failure. Finally, courts should consider running some hearings (or parts of hearings) as audio-only or via telephone.

Part 4 provides a discussion of a range of issues that courts will face in the medium and long term, including **special issues that arise in different hearing types**, such as sentencing hearings, bail applications, jury trials and family matters.

INTRODUCTION

Video technologies are transforming hearings in every corner of the justice system, from neighbourhood disputes to war crimes trials. This process began over thirty years ago, but during the pandemic, a steady transition towards video-enabled hearings became a rush. Although trials and many serious matters were typically put on hold, cases that were heard made extensive use of video technologies. When judges sat in actual courtrooms, they were sometimes alone, with other participants, including prosecutors or lawyers, taking part in hearings from home¹. However many judges presided over hearings from their chambers or homes. During the pandemic, many courts have developed useful checklists and guidelines for using video technologies, which are often updated regularly, so we have not duplicated them². It is likely that justice systems will consider making greater ongoing use of video technologies after the pandemic is over. These Guidelines offer practical suggestions about how this transition might be achieved, for what types of matter, and how greater use of video links impacts on important justice principles like openness, fairness and the chance to test evidence thoroughly.

¹ Prozesse per Videokonferenz: Justiz in Zeiten von Corona, Aachener Zeitung, May 6 2020, https://www.aachener-zeitung.de/nrw-region/justiz-in-zeiten-von-corona_aid-50414861. Judicial officers also presided over hearings from home, in Victoria half of the magistrates on duty at any time worked from home during the pandemic.

² Useful guidelines include those from the Family Court of Australia, Practitioner and litigant guide to virtual hearings and Microsoft Teams, <http://www.familycourt.gov.au/wps/wcm/connect/fcoaweb/about/news/virtual-hearings> The Supreme Court of Victoria, Virtual hearings tips and traps for practitioners, <https://www.supremecourt.vic.gov.au/law-and-practice/virtual-hearings/virtual-hearings-tips-and-tricks-for-practitioners>

Joint Technology Committee, National Center for State Courts, Strategic issues to consider when starting virtual hearings, <https://www.ncjfcj.org/wp-content/uploads/2020/04/COSA-NSCSC-and-NACM-JTC-Response-Bulletin-Strategic-Issues-to-Consider-When-Starting-Virtual-Hearings-.pdf>

Video technologies have been used by courts for the last two decades to bring a single remote participant into a hearing conducted in a physical courtroom. Most commonly, this was a person in custody or vulnerable witness, although Australia, Argentina and France have had examples of judges appearing on a screen in one courtroom from a courtroom elsewhere or their chambers. The pandemic has led to hearings in which several participants appear remotely. These experiences raise several questions. If more than one participant takes part by video link how should courtrooms be configured to accommodate these? What views should participants be given of each other? Do we really need so many physical courtrooms anyway?

The technologies being widely implemented currently bring multiple participants together into a virtual hearing, sometimes without using a physical courtroom at all. In the typical configuration, each participant sees the faces of the others on a single screen, either framed into a 'gallery' or with the speaker occupying most of the screen.

Emerging technologies, which have been shown to work in an experimental setting, provide an immersive virtual court, using multiple screens and cameras. Each person gets a panoramic view of a virtual environment resembling a courtroom into which the other participants are embedded. A three screen configuration has been developed by the Federal Court of Australia, which works effectively using currently available technology.

This report examines both current technologies, ones that can be implemented immediately, and foreshadows ways in which immersive technologies can be enhanced for use in justice hearings. These Guidelines attempt to provide information relevant to the process of technological transition.

Several legal (or socio-legal) issues should be considered in making greater use of video technologies:

- Delays in completing legal processes – to what extent does the delay in holding trials (or other hearings) cause unfairness or other undesirable outcomes? These include unfairly keeping people in detention, causing a deterioration in witness recall, exposing victims to ongoing family violence, prevent victims being able to get on with their lives, exacerbating ongoing disputes or otherwise contributing to hardship.
- Access – to what extent can applicants, victims, litigants, defendants and others get timely and affordable access to justice processes?
- Open justice – how can justice be seen to be done, allowing members of the public, including the media, to observe the process?
- Fairness to accused persons – compared to a face-to-face hearing, is the decision-maker as capable of assessing level of culpability, contrition, mental illness or social exclusion; is the person as likely to feel they are given their 'day in court', and (if a sentence is passed) are they more likely to be found guilty?
- Accuracy of witness testimony – compared to a face-to-face hearing, are witnesses less able to tell their story, do they feel less comfortable in turn-taking, and are they less likely to feel the seriousness of the process?

INTRODUCTION

Several issues pertaining to social cues and social interaction should also be considered when using video technologies in justice hearings.

- Do all parties have appropriate and private spaces in which to participate effectively in hearings?
- Does the hearing format provide an appropriate level of formality and dignity to the proceedings?
- Does it result in a pattern of 'disinhibited' behaviour? Do participants appear on a screen unable to decipher what is going on?

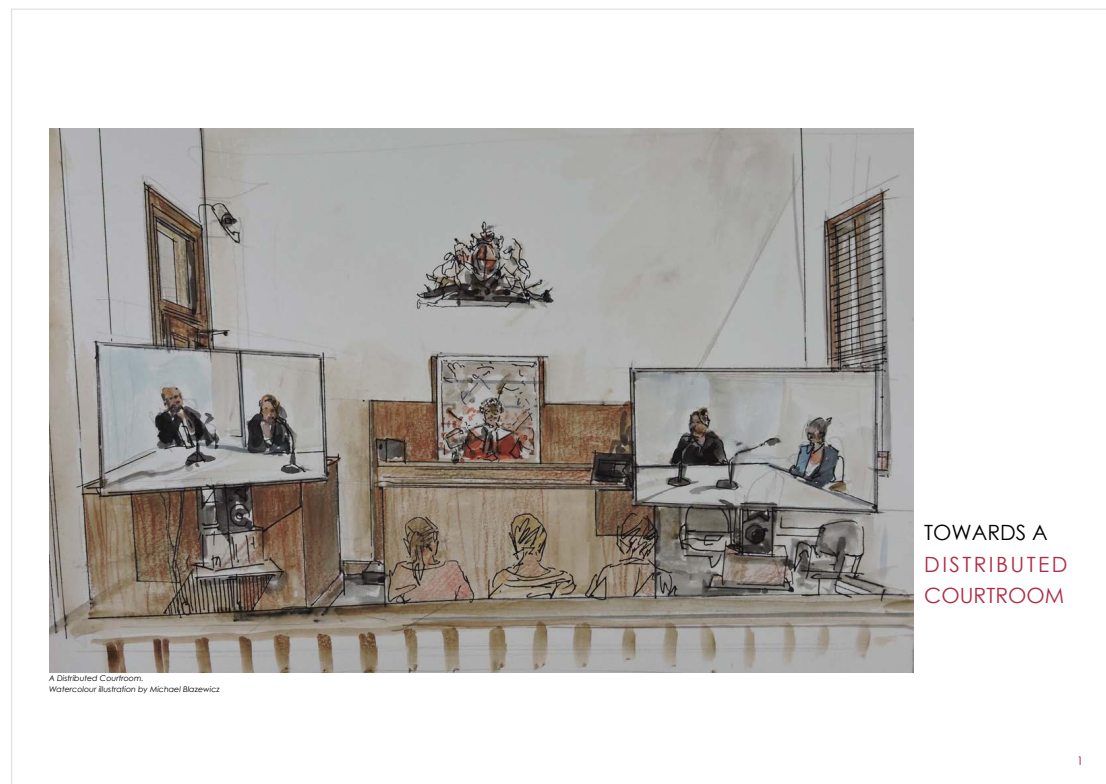
The cues provided by co-location in a physical courtroom are largely absent in the virtual courtroom, so alternative cues should be provided. We suggest a range of these, including more thorough orientation and introduction processes, more frequent checking to see if participants are engaged, and online equivalents of the 'backstage' talk that are found in physical courtrooms.

A range of technical problems may also cause trouble with video-enabled hearings—overloaded networks, inadequate bandwidth, low-quality equipment, calls that drop out, and inaudible audio. Some potential court users may not have a suitable device available, have a poor internet connection or have to share bandwidth with other household members. The report examines what can be done to increase the chances of (technologically) successful hearings. These include using smart forms to collect as much information as possible before the hearing, implementing pre-hearing checks for external users, making available portable units (plus modems) for external users if required, monitoring internet capacity before hearings, having back-up systems (such as phone) fully in place before hearings begin, using platforms that actively 'shape' bandwidth to improve audio quality, and changing hearing times to avoid peak usage.

While jurisdictions will continue to make their own calls about which processes should be deferred or delivered using video links, we hope that this report will contribute to the process by providing timely information.

Courts and tribunals have been using video links for about three decades. Initially this was mostly for vulnerable witnesses³ or persons in custody. Single participants appeared on a screen. One of the earliest uses was for bail hearings in an Illinois court in 1992⁴. Since 2000, litigants in the French overseas territory of St Pierre et Miquelon have had matters heard by magistrates sitting in Paris⁵; this has included criminal appeals, investigating magistrates' enquiries and sentencing reviews. Supreme Court judges sometimes conduct preliminary hearings in Alice Springs, without leaving their Darwin courtroom, 1500 kilometres north. In one state of Argentina, appeals are heard before three judges who are physically located in three different cities.

The Court of the Future Network, the Institut des hautes études sur la justice in Paris, the Autonomy through Cyberjustice research team based in Montréal and the JUSTICE NGO in the UK have been working on these issues for several years, including carrying out major evaluations of pilot virtual court programs and field experiments. We have also consulted widely to seek the views of court users, so many of the insights reported here are based on their experiences. The situation is changing rapidly however, so it is likely that some of the descriptions presented here will be quickly outdated and some of the predictions made will turn out to be wrong.



TOWARDS A
DISTRIBUTED
COURTROOM

Figure 1. 'Towards a Distributed Courtroom' report cover. Credit: David Tait, Blake McKimmie, Rick Sarre, Diane Jones, Laura W. MacDonald, Karen Gelb.

³ Taylor, N., & Joudo, J. (2005). The impact of pre-recorded video and closed circuit television testimony by adult sexual assault complainants on jury decision-making: An experimental study. Canberra: Australian Institute of Criminology.

⁴ Davis, R., Matelevich-Hoang, B. J., Barton, A., Debus-Sherrill, S., Niedzwiecki, E., ICF International, & United States of America. (2015). Research on Videoconferencing at Post-Arrest Release Hearings: Phase I Final Report, p.4

⁵ Licoppe, C., & Dumoulin, L. (2007). L'ouverture des procès à distance par visioconférence. Réseaux, (5), 103-140.

BACKGROUND



Image shows tribunal member, played by actor Dominic Stone, embedded in virtual reality

VIRTUAL
COURT STUDY:
REPORT OF A
PILOT TEST 2018

The research that forms the basis of this paper comes from three primary sources, all conducted by members of the Court of the Future Network.

- The first is the Distributed Court Experiment, funded by NSW Department of Justice (2015-2016).⁶ This mock jury experiment tested a range of different virtual court configurations. (Figure 1)
- The second piece of research is the Virtual Court Pilot Test, funded by Cisco Inc (2018)⁷. This involved a demonstration and experiment of an immersive virtual court.

Both of these pieces of research use simulated trials with actors playing the roles in a virtual court and members of the public giving feedback as mock jurors. (Figure 2)

- The third piece of research is a process evaluation of a virtual court pilot in the Tax Tribunal in London, funded by the Ministry of Justice (2018).⁸ (Figure 3)

Figure 2. 'Virtual Court Study - Report of a Pilot Test' report cover. Credit: David Tait, Vincent Tay. Funded by Cisco Inc.

⁶ <https://courtoffthefuture.org/publications/towards-distributed-courtroom/>

⁷ <https://courtoffthefuture.org/publications/virtual-court-study/>

⁸ <https://www.gov.uk/government/publications/implementing-video-hearings-party-to-state-a-process-evaluation>

An earlier set of guidelines was published by the Court of the Future Network⁹. These guidelines emerged from a 2008 study, Gateways to Justice, funded by the Australian Research Council focusing on vulnerable witnesses and experts testifying remotely into real courtrooms. (Figure 4)

This document expands the focus to include all court or tribunal users (not just witnesses), and all hearings using video, not just those involving one remote participant appearing on a monitor in a physical courtroom. (Figure 4)

Researchers observed a range of virtual hearings and interviewed judges, legal representatives, and lay parties who took part in such hearings. This report also draws on real world examples of court design from around the world and of virtual hearings that have been developed in the wake of the coronavirus.

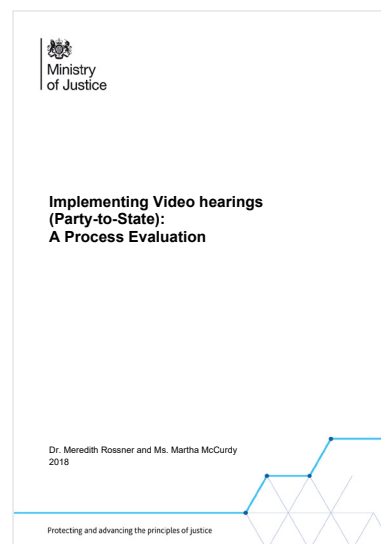


Figure 3. 'Implementing Video Hearings: A Process Evaluation' report cover. UK Ministry of Justice - Dr Meredith Rossner and Ms Martha McCurdy

gateways to justice: design and operational guidelines for remote participation in court proceedings

AUTHORS: Emma Rowden, Anne Wallace, David Tait, Mark Hanson and Diane Jones

A SYNTHESIS OF THE FINDINGS FROM THE AUSTRALIAN RESEARCH COUNCIL LINKAGE PROJECT
GATEWAYS TO JUSTICE: IMPROVING VIDEO-MEDIATED COMMUNICATIONS FOR JUSTICE PARTICIPANTS
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Figure 4. 'Gateways To Justice' report cover. Credit: Emma Rowden, David Tait, Diane Jones, Anne Wallace, Mark Hanson

⁹ <https://courtofthefuture.org/publications/gateways-to-justice-guidelines-for-remote-participation-in-court/> Project number LP0776248

For the purposes of this document, 'judicial officers' include tribunal members, mediators and others who preside over justice hearings or disputes. Similarly, the word 'courtroom' refers also to tribunal rooms, mediation rooms or other spaces used for justice hearings.

In this section, we discuss some of the key design issues involved in constructing a virtual courtroom, or a courtroom that uses video technologies. The discussion includes an explanation of the forms a virtual hearing can take, ways that appropriate symbols of the court are communicated through backdrops and the placement of people around a screen, and issues involved in creating a suitable space for remote parties. We conclude with a set of guidelines with basic design principles for each area.

A justice hearing can be labelled as 'virtual' if one or more participant uses a video link to take part in the hearing. This includes hearings with a single remote participant appearing in court, those with multiple remote participants connected to a physical courtroom, those with no courtroom where participants see each other on a single screen and those that use an immersive or telepresence configuration.

SINGLE REMOTE PARTICIPANT (VIDEO-ENABLED HEARING)

The simplest configuration of virtual hearing is when a single participant takes part in a hearing via video link, appearing to the other participants on a monitor in the courtroom. This is sometimes referred to as a 'video enabled' hearing. This participant may be physically located in a prison, a witness facility in the same (or another) courthouse or indeed anywhere with a CCTV link or an internet connection.

In this model, the courtroom is the centre of activity (Figure 5), with the participants in the court being considered 'present' and those elsewhere considered 'remote'.

In most Dutch courts, the remote participant can see the courtroom and all the other participants, these views provided by multiple frames. In courts in most other jurisdictions, the view offered is more limited. Typically a single monitor (with camera attached) provides the court with a view of the remote witness, while the camera gives the remote participant a wide view of the bar table plus an inset of the judge – but not of the jury (if present) and public gallery. If interpreters are used in a video-enabled hearing, they can see and hear the people speaking, and their voices are heard by those who need the interpretation, but they are not usually visible. Remote observers– media or members of the public –are generally not visible to those in the courtroom; typically they follow the process via video streaming.

DESIGNING THE VIRTUAL COURTROOM

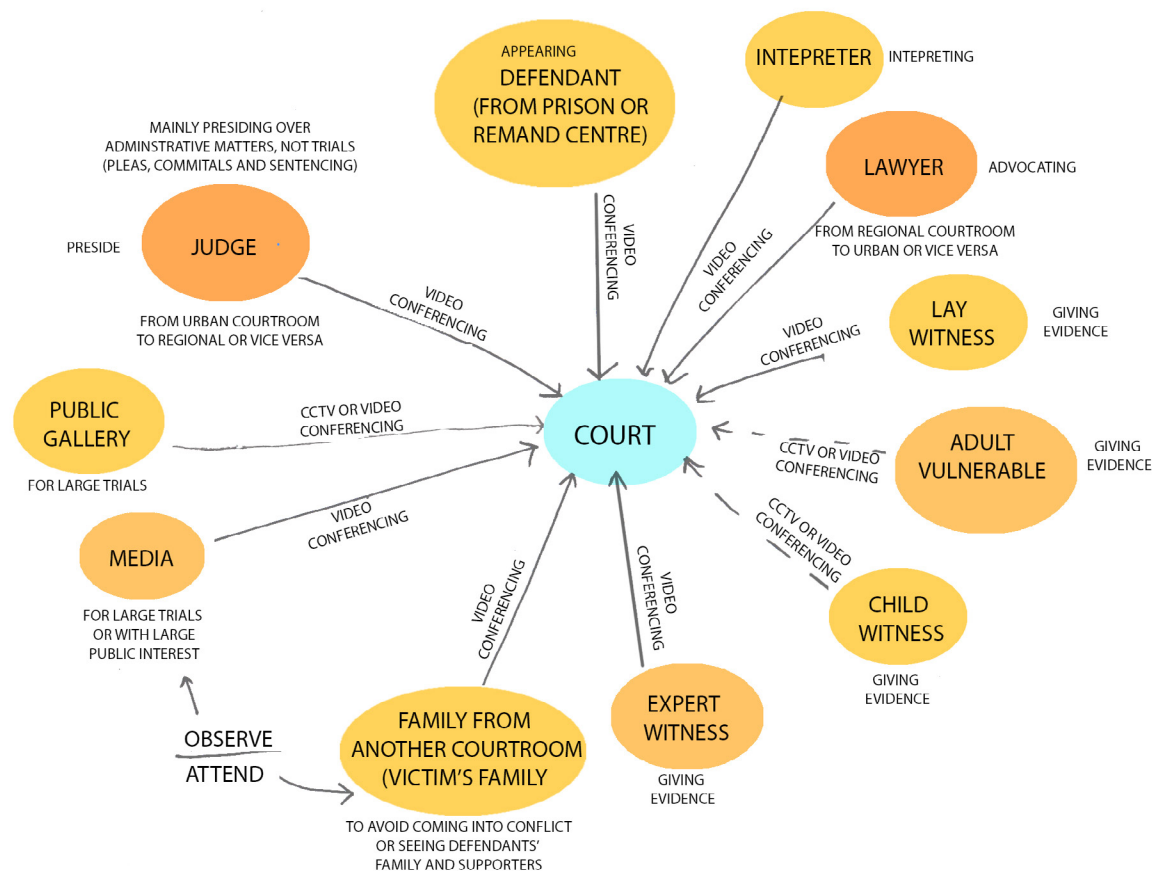


Figure 5. Remote Court Participation (Source: Gateways to Justice I). Diagram: Emma Rowden



Figure 6. Example of a single screen virtual hearing. Tax Tribunal, London, 2018.
Source: Rossner and McCurdy 2018.

A 'virtual' hearing in its broadest sense refers to a hearing in which most or all participants join the hearing via video link from their offices, chambers or other spaces. One of these spaces may be a courtroom, but the other participants do not generally see the layout of the courtroom; what they see is the face of the courtroom-based participant framed in a box on a single screen, alongside a series of other boxes (called 'gallery view'). The image may be enlarged to occupy most of the screen when the person is speaking ('speaker view'). The technology is familiar to most people who have taken part in online business meetings, online education or family conversations. An example of such a screen can be seen in Figure 6, drawn from the UK video hearings pilot. The configuration of such screens will be discussed in more detail in part 1.3

In a gallery view the size of the boxes generally depends on the number of participants. This can mean that those who do not take a direct role in the process, such as journalists, family support people or (in a jury trial) jurors, would each occupy a square (even if blacked out) and reduce the average size of box displaying the active participants. This is for a standard setup of video systems; bespoke platforms such as the ones developed by Pexip (discussed below) limit the number of images on the screen as required.

Zoom and MS Teams both allow participants in video hearings to 'pin' selected participants to be shown in larger frames while consigning other (usually non-active) participants to thumbnail views.

VIRTUAL HEARINGS – MULTIPLE SCREENS

This form of hearings uses a physical courtroom but allows for multiple parties to appear remotely. Rather than placing remote participants into frames on a single screen, this configuration displays remote participants (or groups) on separate screens arrayed around the physical courtroom. Remote participants similarly have multiple screens, and multiple cameras. We refer to this configuration as the 'distributed courtroom' in that the monitors are distributed around the courtroom in the 'correct' position (see Figure 7). A screen at, or behind, the Bench, presents the judicial officer if he/she is remote, while a screen at the witness stand similarly presents a remote witness. Participants turn to face the image of another participant on a screen, co-located with a camera, creating the impression of eye contact. This is the configuration for jury courtrooms in the Shepparton court in Victoria, which provides for two remote participants appearing on separate monitors.

The distributed courtroom can be generalised to allow every position to be either occupied by a person physically present in the room or appearing via video link. This would require some re-arrangement of furniture to many Anglo-American courtrooms to put participants around the periphery of the room, facing each other. This courtroom 'in the round' could include the public within the circle.

One variant of the multi-screen approach can be found in 'telepresence suites' developed by Cisco or Polycom, and currently used for business meetings, or more recently in Australia, national cabinet meetings¹⁰. The widespread use of such facilities demonstrates the technical feasibility of immersive technologies. Several participants sit at a table in a telepresence suite; they look across the table to see those who have joined the meeting from elsewhere sitting at a replica of their table: large monitors show the other participants, full-size, looking back at them across the table. Several sites can be linked together using this approach, with directional sound cues adding to the realism. A telepresence suite configuration operationalises a table with two sides, whereas a judicial hearing can be seen as having, as a minimum, four sides (judge, witness, two parties). Unlike the metaphor of the table which has the participants gathering around the central axis, our configuration has the participants arrayed around the edge of the well, as in Figure 7.

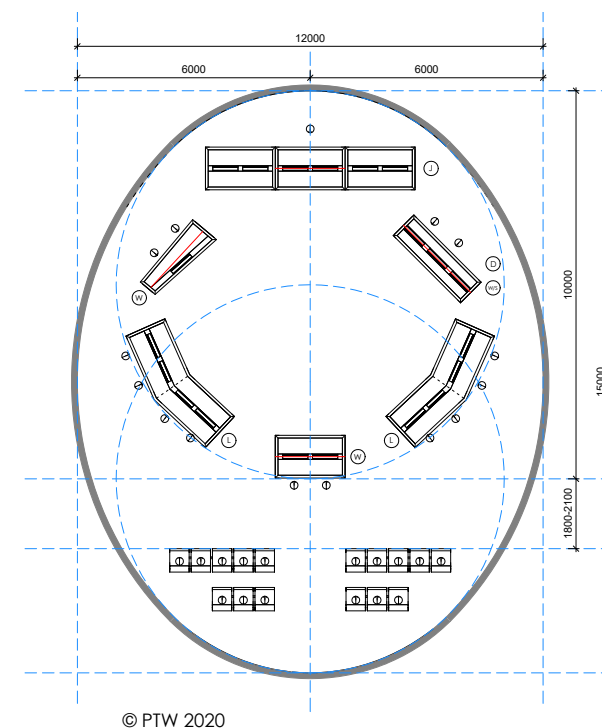


Figure 7. Example of suggested layout of a distributed courtroom. Each of the positions is occupied either by participants in person or a screen. Diane Jones, PTW Architects

10 A photograph of this of this can be found in a Guardian report about the national cabinet: <https://www.theguardian.com/world/2020/mar/31/explainer-what-is-the-national-cabinet-and-is-it-democratic>. As with the immersive virtual hearing, the telepresence suite configuration involves users sitting in front of three screens. Multiple remote sites can be connected in this way, with participants being presented on one of the screens when speaking, otherwise appearing in a small frame at the bottom of one of the screens. Presentations may be made on a centrally placed screen placed on the floor.

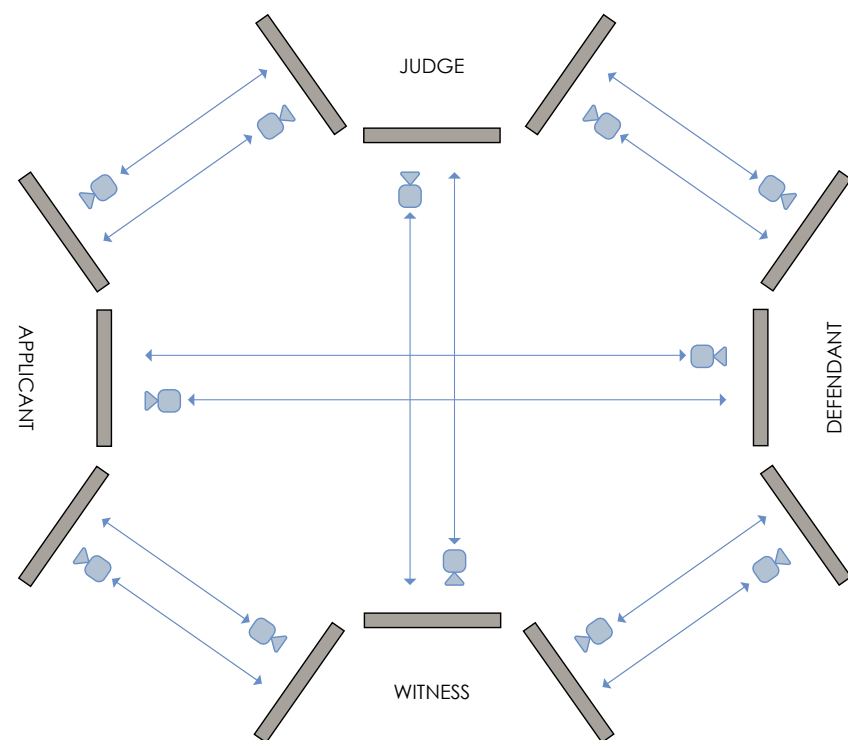


Figure 8. Layout of virtual court used in live experiment, Sydney 2018

An immersive virtual hearing, as we define it here, refers to a hearing in which each participant (or group of participants) is presented on a separate screen, as for the multiple screen configuration, in the distributed courtroom discussed in the previous section. Like that configuration, the participants can look at each of the other participants individually, by turning to face the screen on which the other participant appears. This eye contact is possible because on top of each screen is a camera uniquely matched to one other screen (Figure 8). The judicial officer faces the witness and the two parties face each other. Each of the four participants in this configuration has three screens (each with an attached camera), not the single screen used in the distributed courtroom. The three screens are contiguous and are angled to occupy 125 degrees of the participant's line of sight.

A hearing bringing together the four participants requires six two-way video calls. The witness, for example, looks straight ahead to see the judicial officer on the screen directly in front, she turns to her right to see the defendant on the right-hand monitor and to her left to see the applicant (Figure 9). Participants can not only make eye contact with other participants – the illusion of eye contact can also be produced in a single screen arrangement. They can also see other participants turn away from them to look at each other.

In an immersive configuration using a three-screen approach, the participants would see those in the other three positions, not themselves, or anyone else such as an audience. Which persons occupy these positions would vary according to the type of matter. For many matters it would be the judicial officer, two parties and a witness position. The witness position could be used successively by witnesses from different physical sites. When there is no witness the screen presenting the witness would be blank. The Court of the Future Network has established the technical feasibility of this configuration of an immersive court in an experimental setting (Figure 9).

In principle, the number of sides of the virtual courtroom could be increased to five or even six. However, given that most physical courtrooms use a square or rectangular configuration, there are unlikely to be many situations where more complex configurations are required. For practical purposes it is easier to retain the square configuration and increase the size of one of the sides of the square. A bench of three judicial officers (quite common in tribunal settings) could be accommodated with larger screens (perhaps 60-70") and set back further from the participants (about two metres). Barrister, solicitor and defendant positions could be similarly adjusted to accommodate additional participants (once physical distancing rules are relaxed). See Figure 10 below for a hearing in which two lawyers appear on each side of a case. The audience would not be represented on the screen but would be able to view proceedings by video link; this is most likely on a single screen configuration.



Figure 9. Witness view of immersive court. Virtual Court Pilot Test, WSU 2018. On the central screen is the judicial officer (in this case a tribunal member), with the two parties facing each other on the side screens.

DESIGNING THE VIRTUAL COURTROOM



Figure 10. Judicial officer embedded in virtual environment turning to face defendant. Virtual Court Pilot Test - proof of concept study, 2018. Rendered by Volker Settgast, Fraunhofer Austria, 2018

In a live experiment shown in Figure 9, the participants sat in front of plain backgrounds¹¹. In a more advanced extension of this model, the view on the three touching screens could display the other participants embedded in a virtual environment resembling a courtroom. In a proof of concept of a hearing in a virtual environment, actors were filmed in a green screen room and 'placed' in the courtroom subsequently using a games engine, Unity. (Figure 10). In Figure 10 we see the view from the perspective of the applicant, but the games software allows us to choose another perspective (say, that of the judicial officer), to zoom in, or pan around. Unlike the live experiment shown in Figure 9, this presentation was recorded and put together in the studio, in this case in Austria.

The ideal type imagined in this virtual court follows a standard square court configuration found in many parts of Europe. Two examples of this layout can be found in Figure 11, from Austria and Denmark.

¹¹ David Tait and Vincent Tay, Virtual Court Pilot Study, 2018, <https://courtthefuture.org/publications/virtual-court-study/>



Figure 11. Court layouts: Local courts in Graz, Austria (left), and Bornholm, Denmark (right). The participants are about three to four metres apart.
Photos: David Tait, 12 and 17 October 2018.

Video technologies can allow participants in a virtual hearing to see and hear each other. But for most hearings a number of other technologies, many of them asynchronous, are required to ensure the hearing runs smoothly. The Cyberjustice Laboratory at the University of Montreal has developed a set of tools to provide many of these additional functions¹².

In the past, lawyers often came into the courtroom armed with their diaries to work out suitable times for trials, sentencing hearings or other matters. Matters sometimes took longer or shorter than expected, pleas were entered or disputes were settled before coming to trial, so calendars were adjusted accordingly. Courtrooms also needed to be allocated to particular matters, based on expected length of the process, availability of counsel and judges and number of expected participants.

Scheduling no longer requires lawyers coming into court to negotiate times, even for matters heard in regular courts. Electronic diaries can be coordinated by court scheduling officers, using software that incorporates machine learning, to work out suitable hearing dates. To the extent that subsequent hearings are scheduled for virtual hearing rooms, the task becomes simpler, with the number of virtual rooms able to be expanded without the need to consider scarce room space.

¹² <https://www.cyberjustice.ca/en/logiciels-cyberjustice/nos-solutions-logicielles/le-tribunal-virtuel>

In a traditional court setting, information is kept in paper folders, sometimes stacked high on desks or piled into trolleys. Lawyers 'hand up' documents to the Bench, or 'distribute' copies to jurors while clerks 'file' official copies into court records. All this takes time, requires considerable photocopying in back rooms, and of course consumes large quantities of paper.

In local or magistrates' courts, the 'file' for a criminal matter might be assembled by the police prosecutor for a hearing from charges collated from more than one police station, before the papers were returned to their original location. The court itself would have a record of charges and decisions made.

Increasingly courts are moving towards what is termed the 'paperless court'. Documents about a case are lodged electronically, stored in digital form and made available to parties online. During a hearing, participants can share documents electronically, annotate or sign them. Decisions or agreements are filed in a database accessible to parties or others with an interest in the case. Different professional users will be authorised to access the parts of the file relevant to them. The Australian Federal Court, for example, has some 98% of documents filed electronically¹³.

In a virtual hearing physical files cannot be passed around as easily as when the participants are co-located, so participants must be able to access relevant documents electronically. It is not essential, at least initially, to integrate the video link technology with the case management system (or the document display system), although having the relevant files for a case appearing together with the participants would improve the management of hearings. Case management details could be presented on a separate screen, perhaps one slightly elevated on the desk in front of the central screen.

¹³ Katie Walsh, Are virtual courts around the corner, Australian Financial Review, March 30, 2017

Many hearings rely on materials being produced, authenticated, displayed and examined. Some of the documents will come from the court file, having been placed into the file in advance. Other documents may be produced during the process.

Evidence is provided to witnesses during a trial as part of the process of testing evidence. Such evidence may take the form of written statements, transcripts, phone intercepts, photographs, video recordings, or computer simulations. In a jury trial the jury, as well as audience members, are able to see the responses of the witness to the evidence.

Increasingly jurors are given evidence in electronic form to take with them into the jury room. Preliminary estimates from the Victorian Director of Public Prosecutions indicate that deliberation time is reduced by about 20% compared to jurors having to wade through paper files. Jurors are provided with a searchable content list that allows them to find the desired document quickly. In the courtroom itself about five minutes is saved every time evidence is presented in digital form to jurors rather than handed out on paper.

Most software video conferencing systems allow screens to be 'shared' and documents annotated. This allows witnesses to be shown documents and mark them up, if court rules permit this. The modified document can then be tendered in evidence. Other add-on technologies allow signatures to be obtained. Usually when a screen is shared in this way, the faces of the speakers are not visible, except as thumbnails on the side or bottom of the screen. If the visual reaction of a remote witness to a document is considered important for the decision-makers to observe, bespoke versions of the video conferencing system could allow the witness to see a document while other court users see the witness.

Parties to a dispute may receive information about the law, narrow down issues, elaborate their positions and respond to proposals by the other side using online dispute resolution platforms. Mediation may also be offered based on information provided, clarifying the differences between the two positions and identifying possible pathways. Similar communication platforms can allow prosecutors and defence lawyers to exchange information, negotiate pleas or charges, and identify areas of agreement. During the pandemic all Australian courts provided mediation using video links.



Figure 12. Former Parramatta District Court, Sydney, showing royal coat of arms, 2002. Watercolour: Noelle Herrenschildt

1.3 BACKGROUNDS

Apart from the configuration of screens, a key part of the design of a virtual court is the context into which the participants are to be placed. Should the traditional courtroom be the model for the new setting, or should the opportunity be taken to create a new way of representing justice?

Lawyers and judges appearing in a virtual hearing from their chambers or homes often sit for in front of a bookcase stacked with legal texts. This can work to mark their professional identity. A widely used alternative is a backdrop that creates an illusion that the person is somewhere else.

Backdrops can be virtual – produced by the software package- or actual – custom printed cotton backdrops typically used for film and television production. Customised actual backdrops use less bandwidth than virtual ones and may be suitable for spaces that are in regular use for virtual hearings. Virtual backgrounds work best if the person is placed in front of a green screen, as they would be in a TV or film studio. In practice virtual backgrounds can appear somewhat distracting, producing a shimmering effect around the person's head. The problem can be largely addressed by using uniform lighting, and placing a solid background colour behind the head, which could be in the form of a collapsible white screen.

Most users are familiar with with a virtual environment behind a speaker, used frequently in news broadcasts. Typically, this is something that uniquely identifies the place – the Sydney Harbour Bridge for Sydney, the Brandenburg Gate for Berlin, for example. The speaker in this case has the image as a backdrop, with no direct connection to the site; they do not appear to be climbing the bridge or marching down the boulevard Unter den Linden.

To apply this principle to a justice setting for a 'single screen' virtual court, an iconic image of the city in which the hearing is notionally taking place could be used. This might be suitable when the judicial officers are in one city and the other participants are elsewhere. To provide a more judicial backdrop, an external view of a courthouse itself could given, providing greater specificity about the level and type of court. But which view? Showing a classically beautiful, but empty, building could provide a statement about monumentality and permanence; or in the case of the Antwerp Court of Justice (designed by Richard Rogers Partnership, VK Studio and Arup, 2001, Figure 12), it could be about soaring aspirations for justice.



Figure 13. Antwerp Court of Justice. 'Steps leading up to the Salle des Pas Perdus'. Photograph: Fred Romero, 2015 <https://www.flickr.com/photos/129231073@N06/26634305465/>. Licensed by <http://creativecommons.org/licenses/by/2.0>. Cropped from original

DESIGNING THE VIRTUAL COURTROOM



Figure 14. Entrance to the Commonwealth Law Courts, 2004, Watercolour: Noelle Herrenschildt

But, it could be argued, an empty building does not do justice to the business (or busyness) of the court. Showing a thriving court forecourt on the other hand could suggest a user-friendly, or at least well-populated, environment. In Figure 13 we see the morning rush as lawyers and other court users move alongside flowing water on their right towards the entrance of the Commonwealth Law Courts in Melbourne. This watercolour is an example of the sort of backdrop that could be used for judges who wish to emphasise the human dimensions of justice, or the court as a busy workplace.

An alternative backdrop could be an internal image of a courtroom. In many regular courtrooms, judges may sit surrounded by symbols of state authority, references to violence and other images providing messages about the nature of law. Italian, Austrian and Argentinian and some Bavarian courts display a crucifix behind the judge, reminding viewers of a brutal form of capital punishment practiced by the Romans against those who defied their authority¹⁴. Fasces, symbolising the power of Roman magistrates to punish, and later the right to appeal conviction, are displayed on the walls of some US courts including in the frieze of the US Supreme Court. A sword, indicating swift justice, is held in one hand by Justitia in courts around the world. Other national symbols, such as the harp used in Irish courts, appear more peaceful, almost calming¹⁵ (Figure 14).

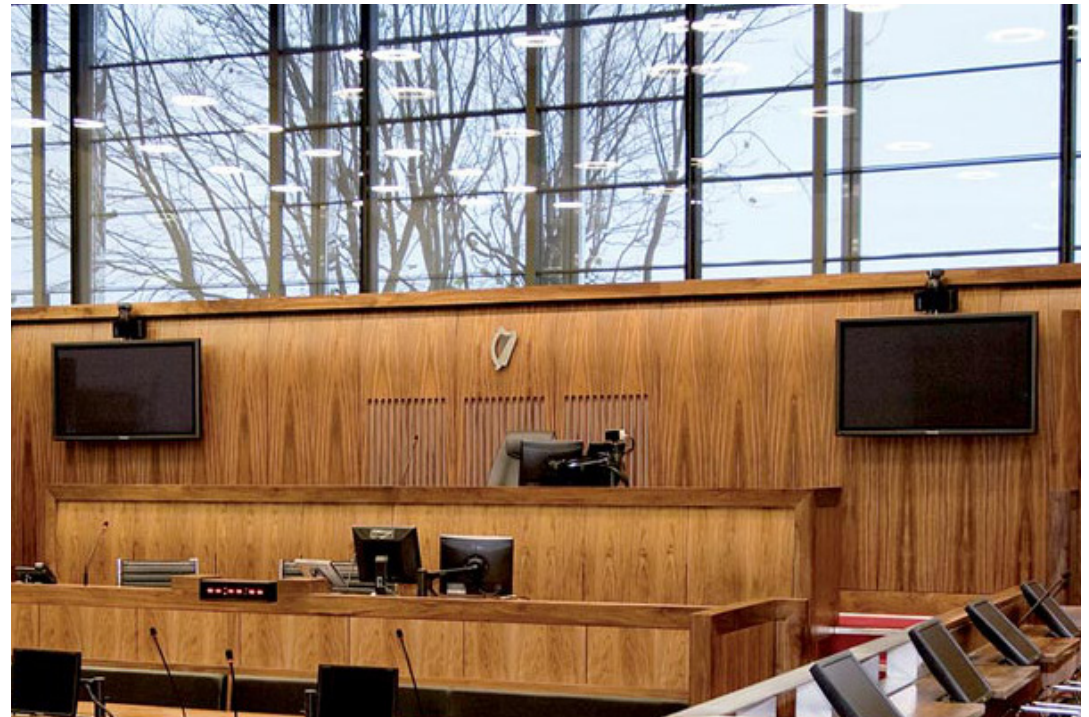


Figure 15. Criminal Courts of Justice in Dublin, the national emblem of the harp. The second image is a more modern take on the harp, the logo for Court Services Ireland. Photograph: <https://www.courts.ie/criminal-courts-justice>

¹⁴ The official explanation for the use of the crucifix is that it serves to remind judges of the dangers of convicting innocent people. See Jacob, R., Truche, P., & Ezratty, M. (1994). *Images de la justice: essai sur l'iconographie judiciaire du Moyen Âge à l'âge classique* (p. 111). Le Léopard d'or.

¹⁵ The harp may have begun its political career as a symbol of the Protestant Ascendancy in the eighteenth century, before being taken up as a symbol of resistance to British oppression. See Mary Louise O'Donnell, *The history of the Irish harp – the symbol of Ireland*, Irish Post, August 4 2015, <https://www.irishpost.com/life-style/history-irish-harp-symbol-ireland-57038>

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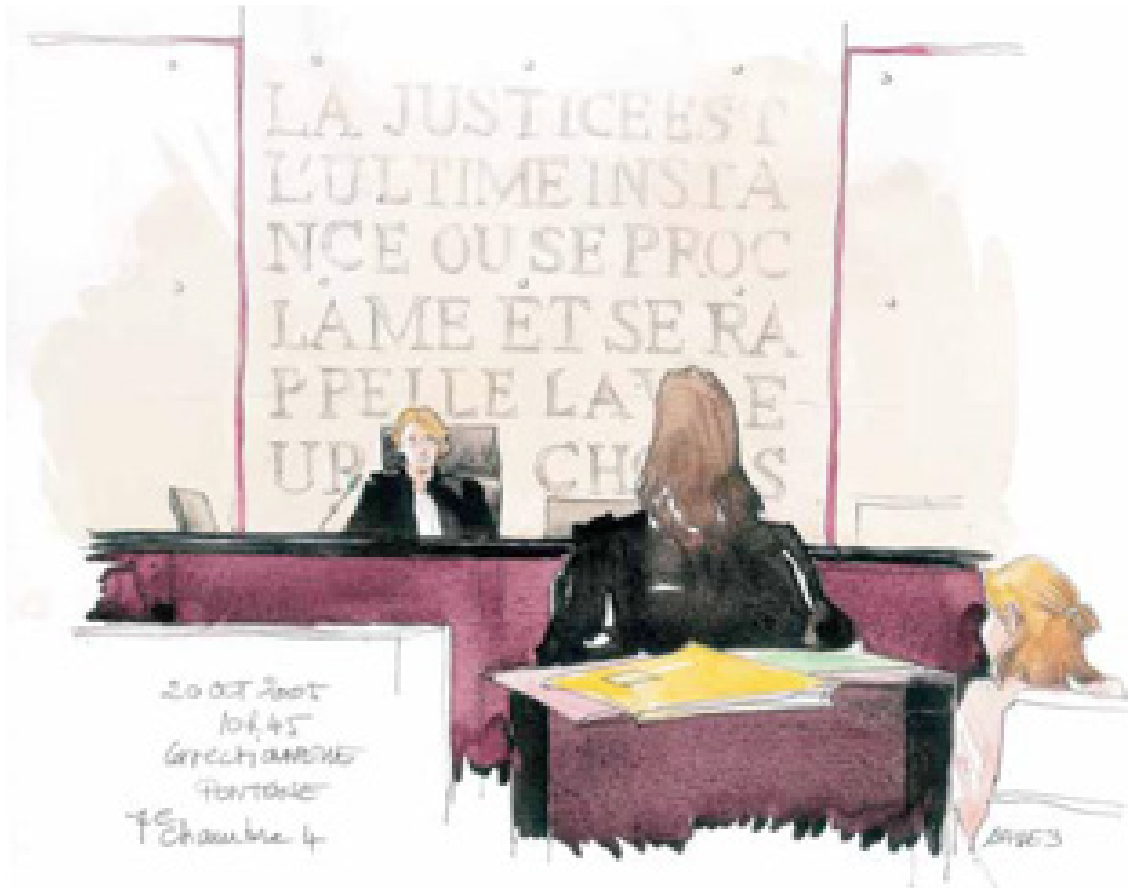


Figure 16. Tribunal d'instance, Pontoise courthouse. Watercolour: Noelle Herrenschmidt

In England and Wales, Canada and Australia, coats of arms are widely used as symbols of state authority in courts. Those who enter or leave court bow to show respect to the monarch, or 'the Queen's justice'. US, Russian and Chinese courts meanwhile tend to use flags to indicate authority. Indigenous courts in Australia also generally use flags (Aboriginal, Torres Strait Islands and Australia), but arguably to indicate reconciliation between people from different traditions.

Just as showing the exterior views of courthouses is not the only way to represent the court building, so re-using current symbols of state authority within the courtroom is not the only way to provide an interior representation of justice. Inspiration can be found in the design of modern courtrooms in many European countries. In the court in Pontoise, one of the outer suburbs of Paris, well-known sayings about law and justice are proclaimed on the walls behind the judge. (Figure 16). Over the border in Germany, the Düsseldorf local and regional court has the windows of its courtrooms engraved with a statement from the German constitution reminding both those inside the room and passers-by that everyone is equal under the law.

Art works are used extensively in courtrooms in Sweden, Denmark, the Netherlands and Germany, replacing images of power and violence with representations of other ways of thinking about justice. This could include a statement about powerful women, sitting quietly and looking at the sky. (Figure 17)

Swedish and Dutch courts have arrangements with local art museums to borrow art works on rotation. The art works are displayed in public spaces, including courtrooms. The Queensland Supreme and District court commissioned a large work behind the Bench of their ceremonial court from a well-known local artist, Sally Kabori, a Kaiadilt elder from the Southern Gulf of Carpentaria. (Figure 18)



Figure 17. Two women sitting together, the art work displayed behind the judge, Bornholm court, Denmark. Photograph: David Tait, October 2018



Figure 18. Mural by Kaiadilt elder Sally Kabori, Queensland Supreme and District Court. Photograph: Diane Jones, October 2014

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Figure 19. Bench in front of tapestry presented by Tongan community, Manukau Family Court, New Zealand. Photograph: courtesy of Justice Jan-Marie Doogue.

The backdrop may make a statement about the people who make up the local community, of the cultural diversity the court seeks to recognise. The Manukau Family Court has a magnificent tapestry presented to the court by a member of the Tongan community which hangs behind the Bench. (Figure 19)

Any of these different styles of backdrop for virtual courts could provide an alternative to the conventional images of courthouses or courtrooms. Given that all the examples provided here are either from existing courtrooms (or external views of a courthouse) it is not unreasonable to suggest that backgrounds used for virtual court hearings could represent the future rather than the past, reconciliation rather than authority¹⁶.

¹⁶ The argument that courts should represent reconciliation rather than authority comes from a speech given by the former Chief Justice of the Australian Federal Court, Michael Black, at a conference in Wollongong in 1999.

In an immersive virtual court configuration, the participants would appear to be completely immersed in a virtual environment, not just placed in front of a suitable background. The goal is to produce a complete courtroom scene into which the participants are inserted, such as in Figure 10. The three screens appear to provide a continuous background as if the other participants were all in the same room. Each participant has a view appropriate to their role or location in the room - judicial officers, for example, do not see the Bench they are seated at. They see the witness in front of them in a witness box on their central monitor, one party at a bar table on the right-side screen, and the other party at a bar table on the left screen.

The setting can be customised according to the nature of the jurisdiction and type of matter. A traditional Supreme Court virtual environment, for example, might have an elevated Bench and canopy, wood panelling behind the lawyers and a curved bar at the front of the witness box, perhaps similar to Figure 14 above. A modern courtroom providing generous spaces between litigants, who sit in front of plain backgrounds with natural light, could use something like the virtual environment shown in Figure 10. A tribunal meanwhile might be more likely to use a flat floor configuration, modelled like the Danish court shown in Figure 17, with tribunal members sitting at a table and witnesses behind a lectern. More innovative approaches could involve re-imagining the virtual courtroom as a natural setting. This could involve using imagery of an oak tree, such as that under which the legendary St Louis (Louis IX of France) dispensed justice, a river bank such as that used by the Federal Court of Australia for some land rights hearings, or a garden shelter such as that built in the grounds of the Port Augusta court in South Australia.



Figure 20. External waiting area, Port Augusta Courthouse
Photograph: PTW Architects

1.4 DESIGNING A SINGLE SCREEN LAYOUT FOR A VIRTUAL COURT HEARING



Figure 21. Gallery view of actors in criminal trial simulation, Sydney 2020

Setting up a courtroom scenario on a screen requires careful planning. In the medium-term it is likely that courtrooms, whether physical or virtual, will increasingly use multiple screens or immersive configurations. In the short-term, however, there will continue to be extensive use of single screen configurations.

This section therefore looks at the single-screen, gallery view approach for the virtual court by comparing four images of court hearings, two from research studies and two from actual hearings. The image in Figure 21 was produced in a film studio at Western Sydney University in 2020 during a trial simulation involving actors. The second (Figure 22) is from a virtual court pilot in the UK, using Skype for Business for tax appeals. The third is from an industrial relations case before the Federal Court of Australia, using Microsoft Teams. The final image (Figure 24) is from a bail hearing in Florida, using Zoom.

We use this comparison to identify features for consideration in designing the way active participants in the court hearing could be presented both to each other and to potential audiences.

The relative position of the participants may provide cues to the audience about the roles played by the judge, lawyers, witnesses and others. The size of the participant within the frame, where they are looking and how clearly they can be seen may contribute to the credibility of the performance.

In a pilot project involving administrative appeals against tax determinations, the appellant sees three faces on the screen: the judge on the top left of the screen, a representative of HM Revenue & Customs alongside him and, on the lower tier, the appellant only (Figure 22). Note the image provides a mock-up of a hearing, with staff members sitting in each location) .

The 'judge' has a royal coat of arms behind him, indicating the source of his authority, and a high-backed chair reinforcing this impression. All the images are labelled so parties can be identified. As with "Figure 21. Gallery view of actors in criminal trial simulation, Sydney 2020" on page 34, the top row is occupied by the professionals and the second row by the lay participant. Two of the participants are framed so they occupy about a quarter of the screen. In this case the judge appears smaller than the others, in order to enable the coat of arms to be included in the frame. The backgrounds are plain, without any furniture. The faces of the participants are difficult to make out, suggesting the need for supplementary lighting.

The Federal Court of Australia was already a paperless court, so the switch to using virtual court technology, using Microsoft Teams was just one more step in a digital transformation of its operations. Figure 23 is a screen shot taken from a recorded hearing the court has put on its website. There are only four frames at any one time; the names or roles of the participants are not listed, unlike in Figure 22 and Figure 24.

The judge, sitting in a courtroom, begins the ten-minute extract of a civil hearing in the bottom left hand side of the screen and moves to the bottom right as shown here. He has a head-worn microphone which produces high quality sound. This contrasts with the somewhat muffled sound from one group of lawyers in the top left box of the screen who sit some distance away from both their camera and their microphone. The other lawyers are closer to the camera and so appear larger (and the sound is clearer). The second lawyer is currently shown in the background sending the judge some documents he had requested; when she speaks to the court she comes forward and sits beside her colleague. The camera presenting the judge is on his left so the judge presents a side-on view, particularly when he is looking at his screen. The witness, a union leader, appears in the bottom left hand side of the screen. There are only four frames at any one time; when the witness appears, a group of three other people (including the two applicants) disappear. The frame containing the image of the judge does not show the top part of his head, while the frame for the witness shows him in the bottom quarter of the image looking down at an oblique angle with a large door occupying almost half the screen. The lighting is adequate for all the participants, unlike in Figure 22, although a light behind one team of lawyers is somewhat distracting. All the professional participants are in business suits; the court's rules indicate that if the judge robes, the lawyers are required to as well.



Figure 22. The appellant's view, Virtual court pilot project, UK, tax tribunal. Source: Rossner, M. and McCurdy, M. Implementing video hearings (party to state): a process evaluation, UK Ministry of Justice, 2018.

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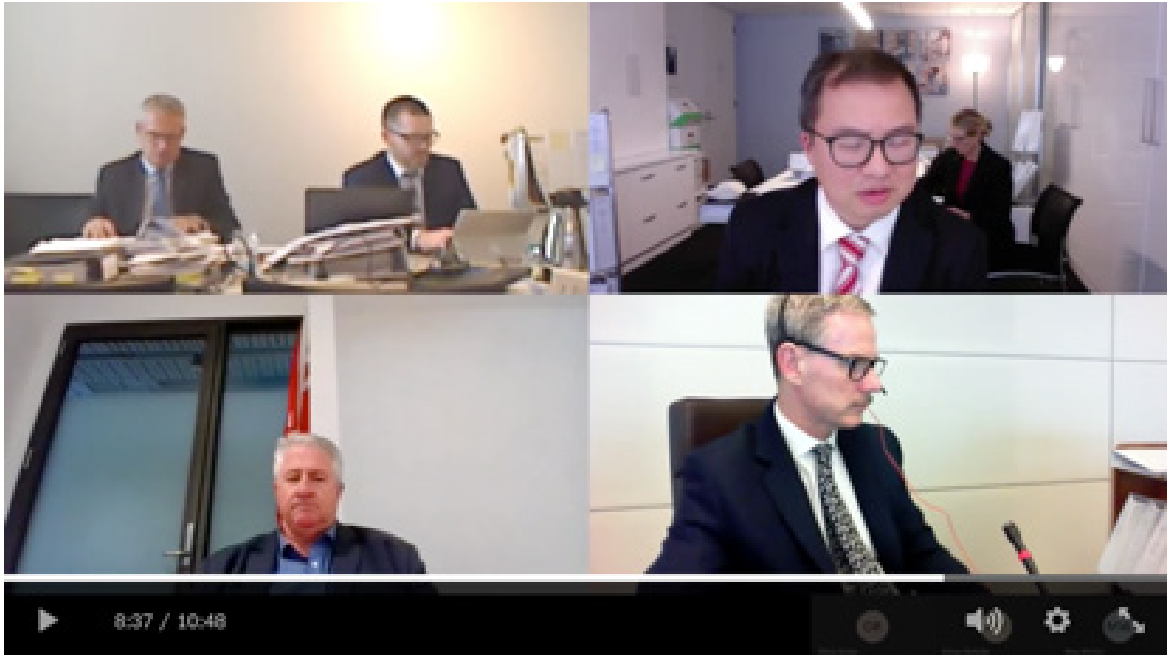


Figure 23. Federal Court of Australia, Quirk v CFMMEU, 2 April 2020, <https://www.fedcourt.gov.au/online-services/virtual-hearings>

Bail hearings are one of the urgent matters virtual courts have been set up to deal with. Unlike civil matters, such as those shown in Figure 23, they usually involve a video link to a prison. Miami courts use Zoom to conduct such hearings (Figure 24).

The judge is placed in the top central location. He is robed and has two flags behind him, typical symbols of authority in an American courtroom. He is swearing in a witness, a police officer, sitting in a police SUV, wearing an open neck shirt, with a cross around his neck and sunglasses hanging down in front of his chest. The prosecutor, on the judge's left (our right), is robed. She appears to be at home. The defence lawyer is not shown on the screen, and may have appeared by audio only (the article confirmed there was indeed a defence lawyer). On the right of the judge where the attorney could have appeared is the reporter who is covering the story, dressed in a bright floral shirt. On the second row of images we see the defendant on the left side, dressed in orange overalls, sitting silently in front of a prison door. Next to him is the complainant. Her face has a black line through it in the newspaper article to protect her identity. Unlike the previous examples there is a third row, which means that all the images have to shrink to accommodate this. The third row could be for court staff or other witnesses. The lighting for all the participants is of a reasonable quality. On the top row all the views are close-ups of faces, so the tops of heads are missing, whereas in the second row the image of the defendant makes him look particularly distant by contrast, while the portrait view of the police officer from the camera in his SUV means that over half his frame is black background.

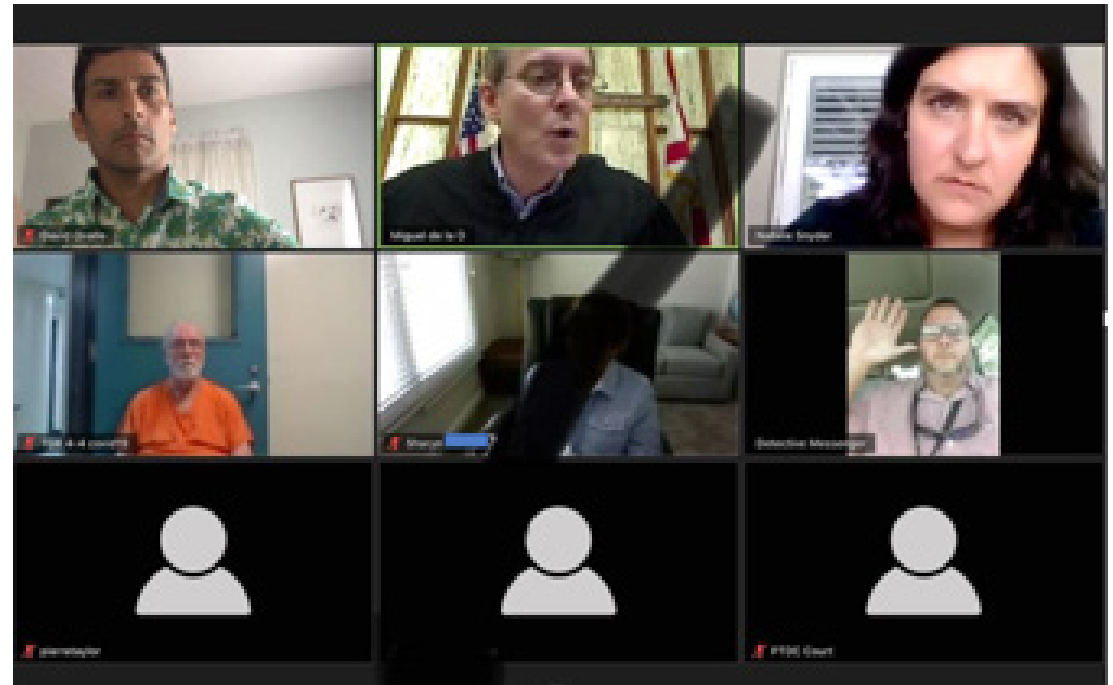
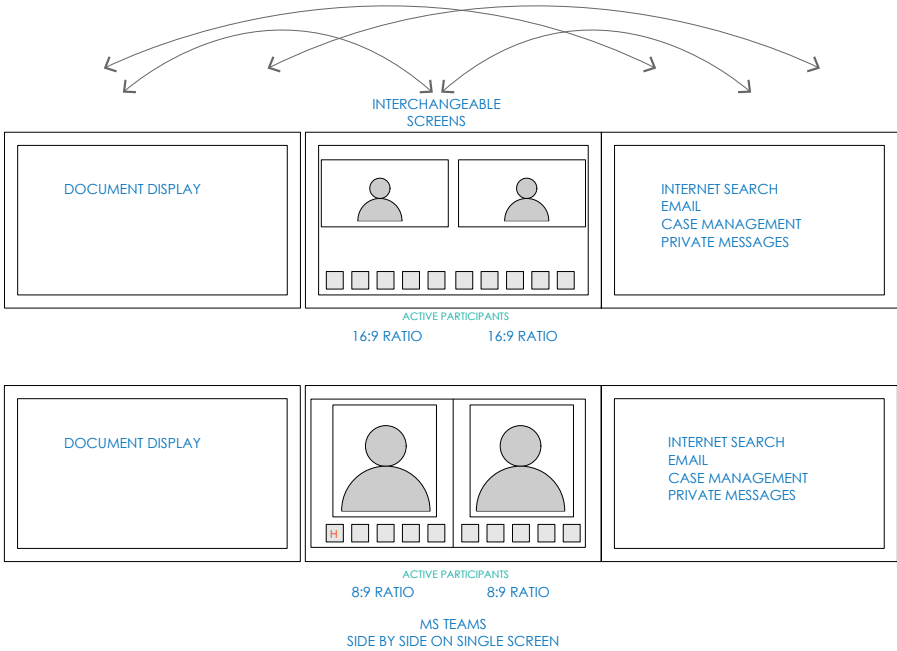


Figure 24. Miami Zoom hearing, April 1 2020, <https://www.miamiherald.com/news/local/crime/article241708946.html>, used with permission

1.5 DESIGNING A THREE SCREEN CONFIGURATION FOR A VIRTUAL COURT HEARING

The immersive four-pod configuration uses three screens in each pod. With one camera associated with each screen, each participant is able to make eye contact with each of the other three participants. There are however other ways of using three screens using a single camera for each site. This section describes two slightly different approaches, currently used by the Federal Court of Australia, using software that is already available ¹⁷.

¹⁷ The authors are very grateful for Justice Perram for allowing us to observe hearings using these two versions of a three screen configuration.



OPTION 1: SIDE BY SIDE ON A SINGLE SCREEN

This three screen configuration reserves one screen for the video conferenced participants, leaving the other screens free for other uses, such as document display, internet searching, email, case management and private messaging. The applications can be moved freely between screens.

Besides the standard gallery and speaker views, MS Teams allows some speakers to be 'pinned', and placed side by side, while non-speakers can be reduced to thumbnails (Figure 25). The screen can be split into two with the two active participants occupying just under half of the screen each. Underneath the two large images are placed the row of thumbnails of other participants, including one for the host.

Most video conferencing programs present each video image in a 16 x 9 format. If two images in this format are presented side by side, on most videoconferencing platforms this results in over half the screen being unused - wide strips appear along top and bottom of screen. MS Teams allows the option of a split screen with each image being truncated to an 8 x 9 format. In other words, each frame is presented with the context on either side of the speakers removed. This is often suitable if there is a single participant in each frame, which is normal for court purposes. It could however cut out some of the group if there are several people in one site.

Figure 25. Side by Side Screen configuration - Single Screen

OPTION 2: SIDE BY SIDE ON TWO SCREENS

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While MS Teams allows users to display two participants to be presented side by side on a single screen, Zoom allows two screens to be used for this purpose, each displayed in the original 16 x 9 format (Figure 26). As with MS Teams, the active participants can be 'pinned', with one placed on one screen, and the other dragged and dropped onto another screen. Other participants appear as thumbnails at the bottom of one of the screens. This means that two of the three screens can be used to present the video conference, with the third screen used for all the other activities – documents, email, messaging and anything else. However any of the windows can be dragged to any screen, so that the email or texting window can be placed in front of one of the video windows to answer a query before being minimised or dragged elsewhere.

Alternatively, one of the screens can show a gallery. This can be customised by the host to place participants in a logical status order. For a court hearing this might mean the judge on the top row in the middle, flanked by lawyers for the two parties (indicating equality of arms), and other active participants like witnesses on the row below. Importantly, and in contrast to most other video conferencing platforms, participants who do not have an active role (e.g. solicitors, journalists, family members etc.) do not appear on the gallery.

'Pinning' is what a user does to customise their own view. The host can change the view for others by 'spotlighting'. Thus the host could create a gallery suitable for users who have only one monitor, (and show this on one local screen) while also retaining a full screen for one of the speakers.

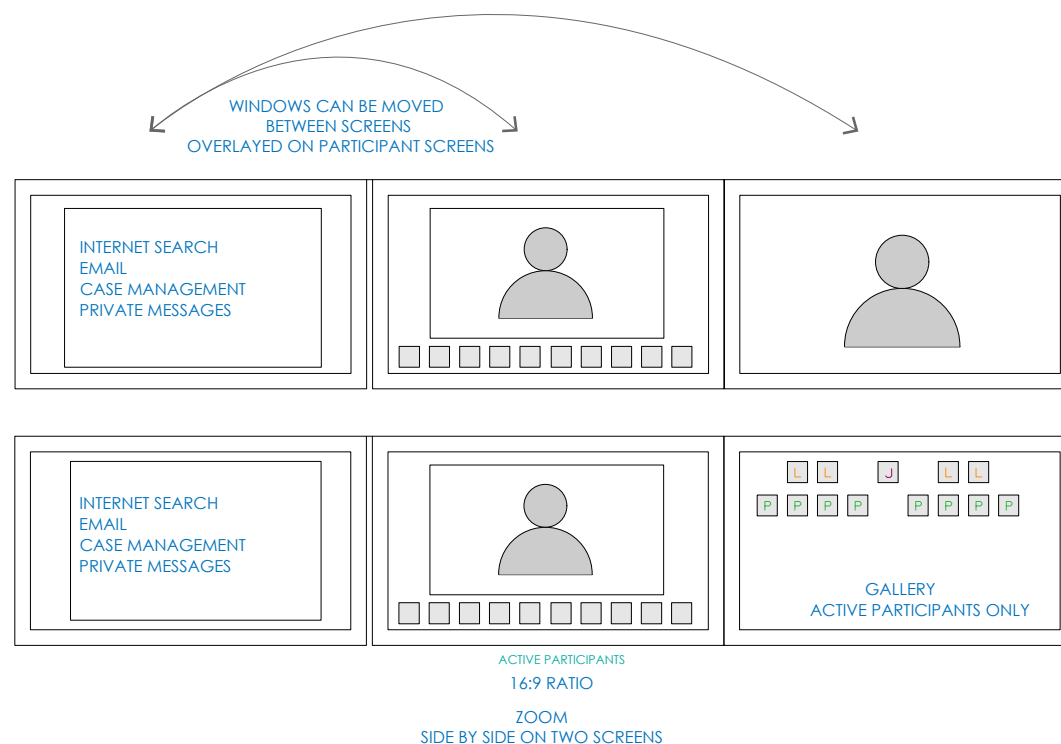
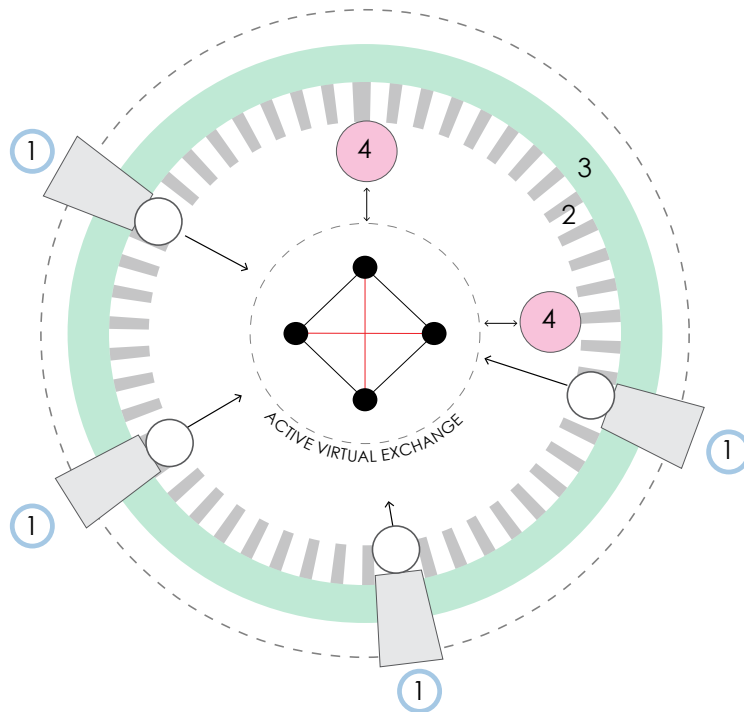
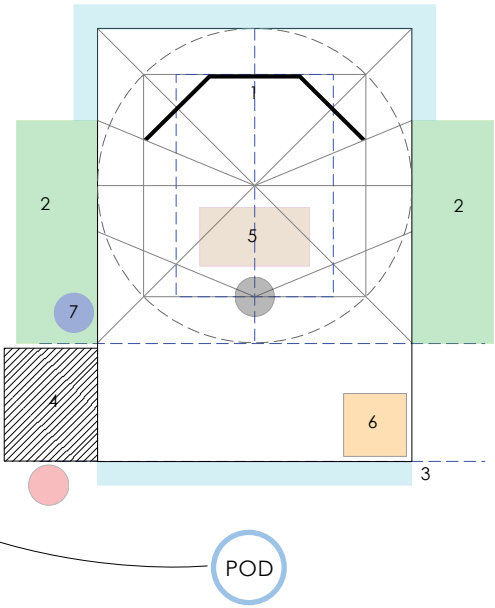
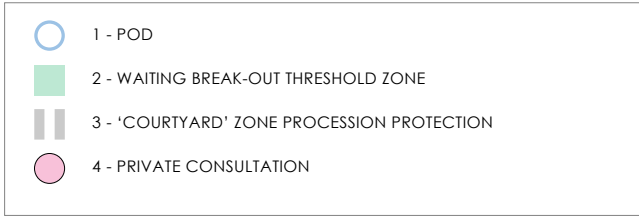


Figure 26. Side by side screen configuration -Two Screens



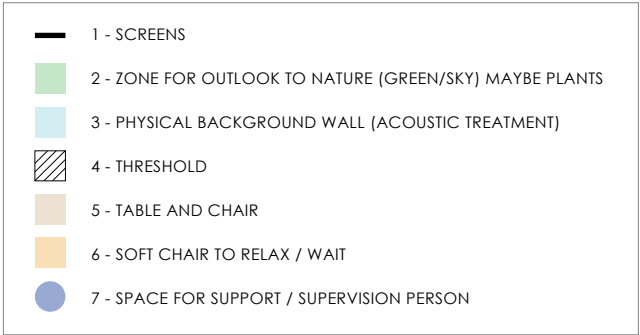
© PTW 2020

Figure 27. Conceptual Diagram of a Virtual Courtroom



© PTW 2020

Figure 28. Pod configuration based on sightline and spatial parameters suggested by Court of the Future experiences since 2008.



1.6 PREPARING THE COURT ESTATE FOR VIRTUAL HEARINGS

The mix of court and tribunal rooms within the court estate in many countries has undergone considerable change over the last thirty years¹⁸. More space within court buildings has been made available for activities like preparation, mediation and consultation while improved facilities have been provided for registry, prosecutors, lawyers, witnesses, media, interpreters, victim support, jury management and other services. Providing additional space for virtual hearings within the court estate can be seen as one further step towards responding to emerging needs. Given the high cost of courtrooms, a mix that includes a flexible range of spaces and portable facilities potentially offers cost savings as well as higher utilisation rates. There are several somewhat different types of space that are likely to be required:

The diagram of Figure 27 graphically illustrates the challenges of designing the virtual court: how the sense of procession, protection, solemnity, authority and care can be created through the combination of real (the pods) and perceived space (the place of virtual exchange).

LARGE OR MEDIUM-SIZE COURTROOMS

Some hearings will continue to require courtrooms similar in size to those currently in use for regular hearings. In most cases the judicial officer (and jury, if a jury trial) would generally be physically present in the room, together with members of the public. All other participants might be either physically present or appear via a video link from elsewhere. For any particular matter, the mix of those who are physically present and those who appear by video could vary.

What is likely to be different about the rooms from what they are like now is the configuration of the participants. Instead of lawyers occupying the well of the court, as they do in most common law courtrooms, they would be moved back to the edge of the room. Similarly for screens: instead of multiple remote participants being placed in boxes on a single screen (with lawyers, judicial officers and jurors sometimes having their own personal screen as well), screens will be arrayed around the periphery of the room to permit eye contact between participants displayed life-size, and directional sound cues. The judicial officer, for example, might turn to her right to see the prosecutor, either in person or on a screen, and to the left to see the defence lawyer, also either in person or on a screen.

To achieve good sightlines between participants the ideal shape for furniture configurations is therefore within a square (Figure 29 and Figure 30), round or oval shape (Figure 28) to accommodate more positions.

A range of different settings is possible:

- Lawyers for both sides could continue to sit together at a common bar table as they do in most English and Australian courts (and

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San Diego in the US), but they would be on angle to the judge, not facing her.

- Alternatively, the parties could sit facing each other across the well of the courtroom as they do in civil law countries.
- Similarly, witnesses could sit (or stand) facing the Bench as they do in most civil law countries, municipal courts in the US and many drug or other therapeutic courts,
- Or they could be placed somewhere on the edge of the circle facing the bar table, the jury or the audience. Whatever the details of the configuration, the participants would be arrayed around the edge of the room.

Adding a jury could add another side to the configuration, such as:

- The jury could share the front of the court with the judge as they do in France and Sweden.
- Screens could be split – in civil trials expert witnesses could appear side-by-side, as indeed they sometimes do in 'hot-tubbing' arrangements.
- Appeal court benches might similarly present three judges appearing from different locations in a side-by-side format.
- The public could be part of the circle, as they are in many French courts, such as Créteil. This would allow members of the public to get an immersive experience similar to that of the participants.

¹⁸ See Parker, S. (1998). Courts and the Public. Melbourne: Australian Institute of Judicial Administration.

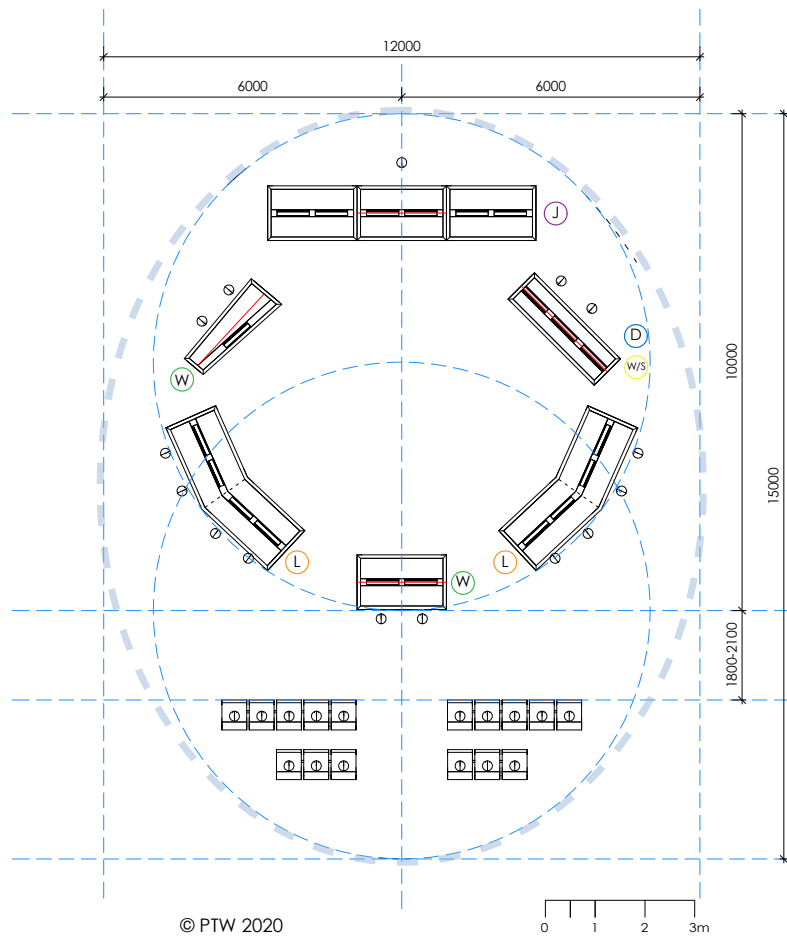


Figure 29. Diagram 1 - Suggested layout of a distributed courtroom. Participants (person or screen) arrayed within circle or square.

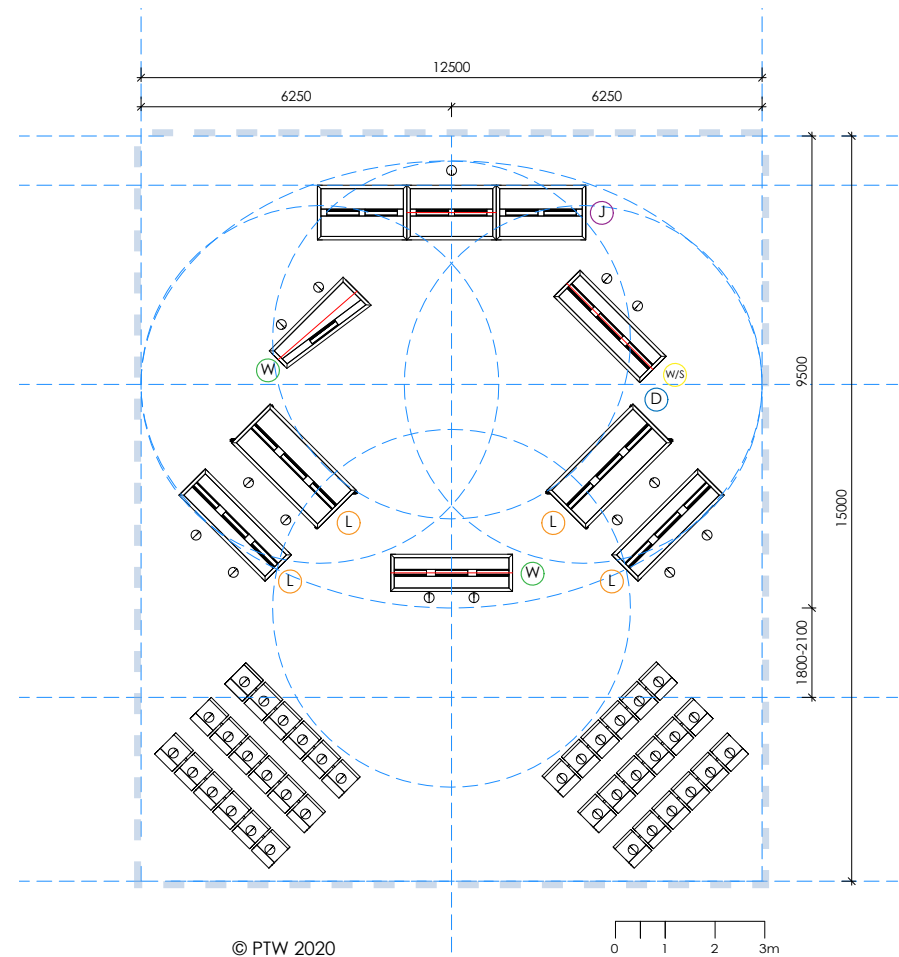
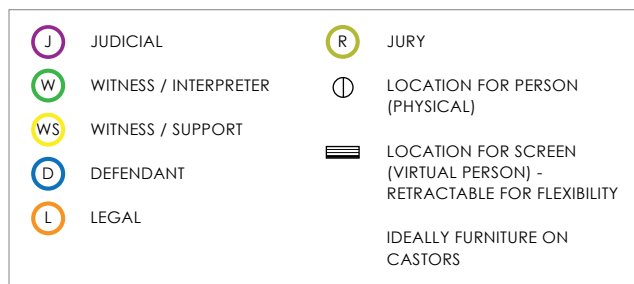


Figure 30. Diagram 2 - Suggested layout of a distributed courtroom. - Oval Variation 1



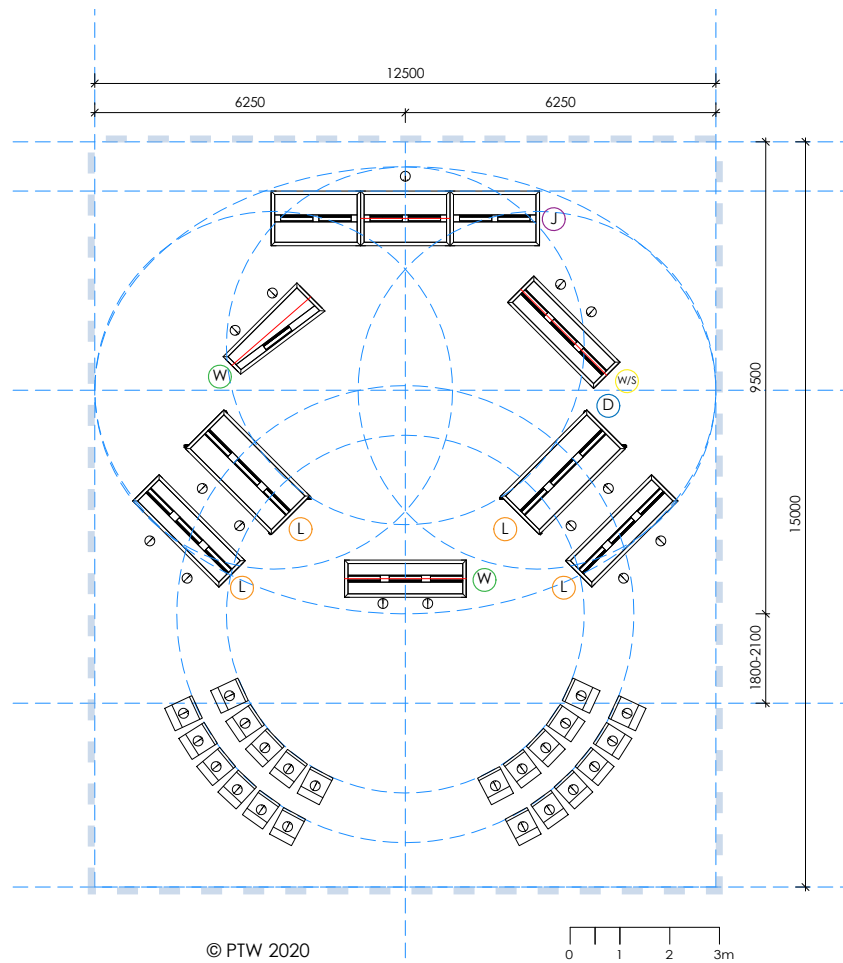


Figure 31. Diagram 3 - Suggested layout of a distributed courtroom.
- Oval Variation 2

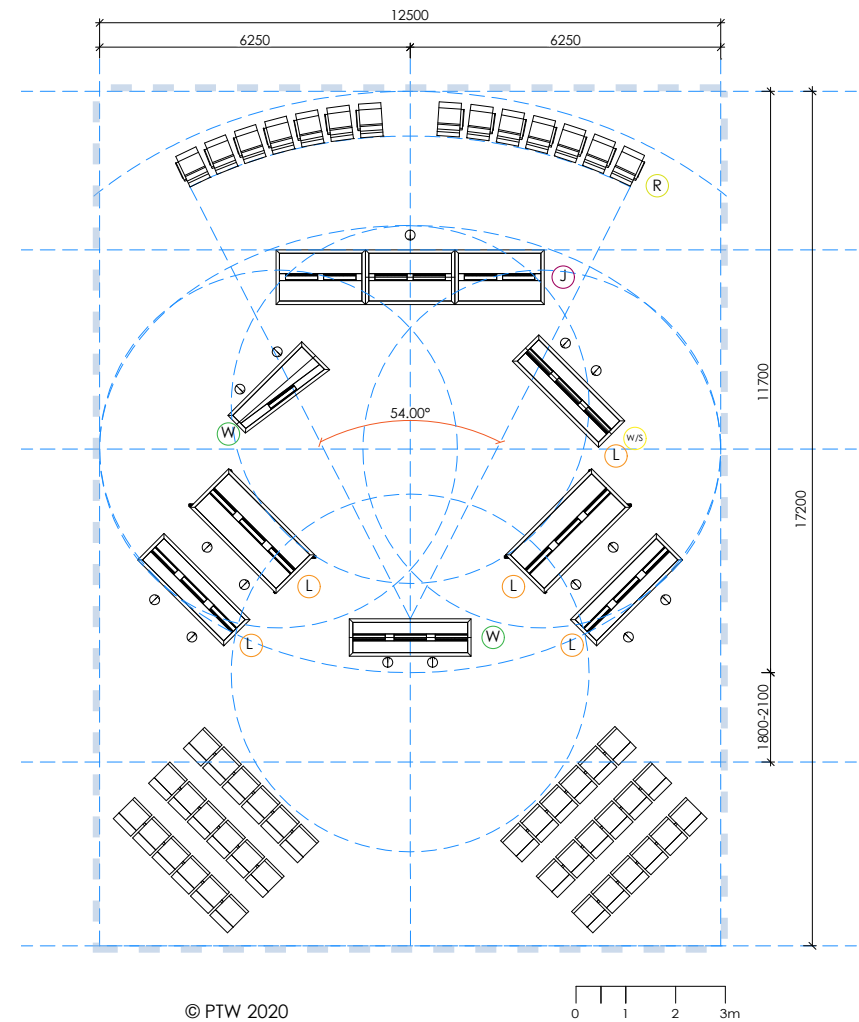
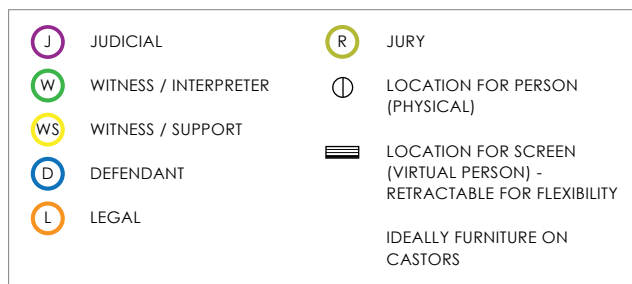


Figure 32. Diagram 4 - Suggested layout of a distributed courtroom.
- Oval Variation 3 with jury sharing front of court



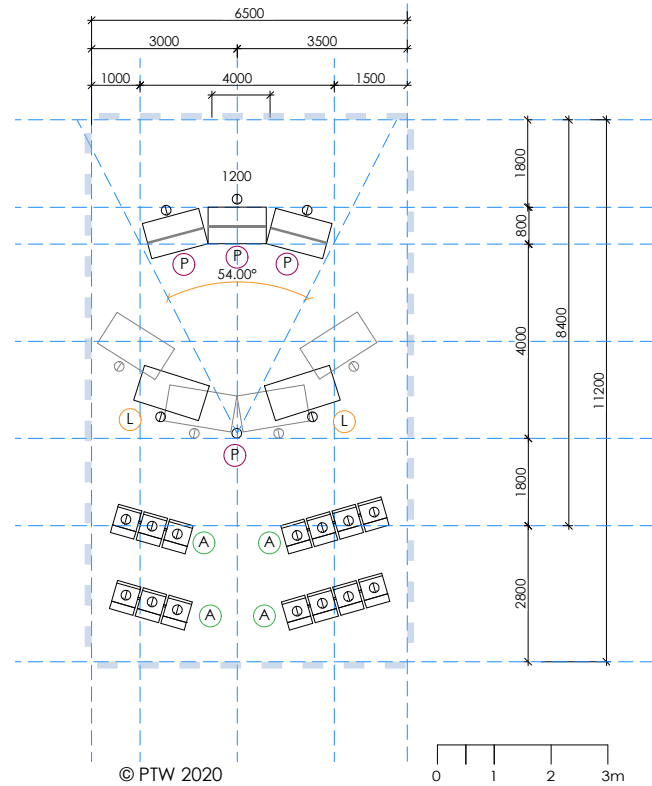
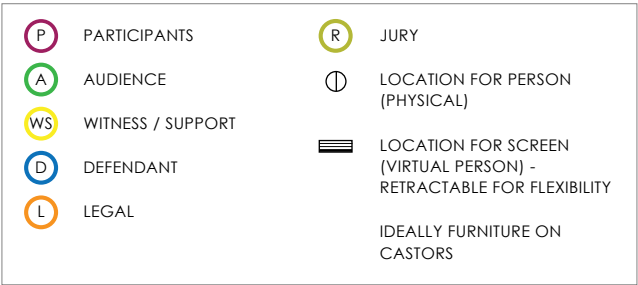


Figure 33. Suggested layout of a smaller or tribunal room. Participants (person or screen) accommodating positions for four participants either in person or via video link.



SMALLER COURT OR TRIBUNAL ROOMS

Given the generally less complex matters for which virtual court facilities are likely to be used, many virtual hearings could potentially be managed effectively from relatively small spaces. The rooms would have full virtual court functionality - accommodating four positions, each one allowing a participant to appear either in person or via video link. As in the larger courtrooms, participants could make eye contact with each other and receive directional sound cues.

There could also be space for a small number of audience members, and/or provision for video streaming to avoid building in audience seating that is rarely used.

It would be anticipated that most hearings using the facility would involve judicial officers in person, so have a suitable Bench and chair, but otherwise simple with a flat floor configuration. The camera capturing the Bench should cover a wide enough view to show remote participants up to three people sitting at the Bench, such as three tribunal members, a magistrate and clerk, or judge and associate.

There may also be occasions, particularly in regional courts, where the judicial officer appears in the room by video link for preliminary matters - with the legal representatives in the courtroom.

SINGLE VIDEO UNITS OR PODS

Small hearing rooms can accommodate participants in several positions, such as a judge and prosecutor. Where only one participant (or group of participants) needs to take part in an immersive hearing via video link, a single three-screen video unit would in most cases be adequate. In the virtual court pilot study carried out in Sydney, four such pods were constructed (Figure 34), each with three 42" screens, touching to create the illusion of a continuous courtroom scene. The participant was one metre away from each screen. For a pod to accommodate three people while allowing reasonable sightlines, larger screens (probably 60") and a greater distance between participant and screen would be required. On the other hand if the participant needed to read documents on one of the screens, at least some of the time, a shorter distance would be appropriate. In this case, 21" or 27" screens may be more suitable.

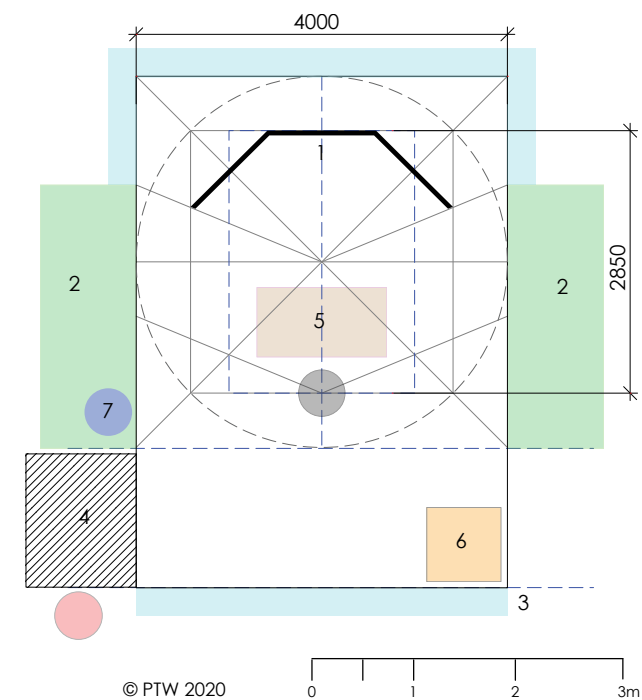
Many courthouses have special facilities for individual witnesses to testify remotely, while detention facilities have similar facilities for persons in custody. To support virtual hearings, video units would need be available for a wider variety of users. These could include judicial officers, prosecutors, lawyers, litigants, defendants and witnesses. It is likely that some of these suites would be off-site in prosecution or legal offices, family violence support centres, or other public facilities like public libraries.

For smaller courthouses, a single suite of such units might serve a range of different users, perhaps with dual entrances (e.g. from judicial and public areas). For larger courthouses, separate suites might be provided for judicial officers, legal professionals, vulnerable and child witnesses and others.

DESIGNING THE VIRTUAL COURTROOM



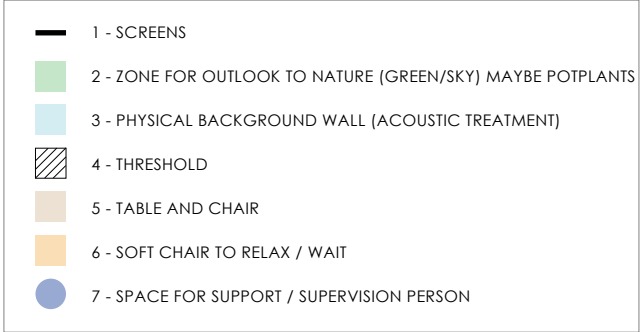
Figure 34. Virtual Court Pilot study, Sydney 2018. A view of a pod from above right (left) and above back (right). The configuration has three 42" monitors with cameras attached to the top of each one. The participant – in the case of the left-hand image a 'tribunal member' – is turning to his right to make eye contact with one of the parties to a neighbourhood dispute. The bottom image shows the view of three screens; the photo was taken during the setup process to adjust the configuration (note the left and right images are reversed). Photograph: Vincent Tay, Filigree Films



As well as having dedicated spaces, whether in courthouses or other buildings, portable immersive facilities are likely to enable participation in hearings by a wider variety of users, reducing the need for travel and the pressure on court spaces. Portable pods would provide immersive settings 'in a suitcase', including all the equipment required to set up a temporary workstation, including an acoustic backdrop, lighting and wireless internet access.

While the pods would have full immersive capacity, they could also be used to support other configurations, including three screen arrangements in which participants face forward (similar to a telepresence suite), or when one screen is used for document display.

Figure 35. Pod configuration based on sightline and spatial parameters suggested by Court of the Future experiments since 2008



For occasional use in courts, legal and prosecution offices, family violence centres, and even prisons, having a number of portable units could provide a backup, or even replacement for fixed facilities. For this use, larger screens might be available and portable units designed to be wheeled around rather than assembled from a suitcase. A possible model for this, using a single screen, can be found in the portable facilities planned for the new Amsterdam courts (Figure 35). For these courtrooms, the portable units cost less than a third of the per-room cost of fixed facilities and provide higher quality images and sound than the equipment they replace. Portable units such as this might potentially be available for use in mediation rooms, judicial chambers, holding cells or other parts of a court building. Finland, for example, makes portable video units available for prisons, asylum centres and hospitals¹⁹.



Figure 36. Portable video units developed for the new Amsterdam courts, replacing fixed facilities currently used in the Netherlands. The left image shows the view of three judges at the top, a defence lawyer and an empty seat from the witness room. The right hand image shows a side view of the unit, containing a codex, speakers, camera and the screen able to be slid up or down according to the height of the Bench, the bar table or wherever it was being used. Photograph: David Tait, 21 June 2019.

1.7 SETTING UP OFFICE AND HOME FOR A JUSTICE HEARING

While physical court buildings will continue to be the centre of many, if not most, virtual hearings, a range of other spaces will be involved as well. Participants may be taking part in a virtual hearing from a variety of locations, including one's office, home, court or other public building.

It is important that equipment used meets minimum standards for effective participation, including support for the conferencing software being used, adequate internet speed and computer capacity. The environment should also be suitable in terms of aural and visual privacy, lighting, acoustics, camera angle, amenity and physical size.

For some types of hearing, the user's own equipment, and their internet access, may be adequate. For other hearings it may be more appropriate to use public facilities outside the home, such as community legal centres. In other cases, providing a portable video unit might be necessary to provide the level of reliability and quality required.

One of the real-world applications of a virtual court approach – using a single screen – was carried out by the UK Ministry of Justice and Her Majesty's Courts and Tribunal Service in England and Wales in 2018. A key feature of the UK virtual court pilot was a 'pre-hearing' call with a member of the court administrative team. The administrative team member tested the connection, camera, and microphone of

participants, and also offered advice on suitable lighting and backdrop for the hearing. Users reported positive feedback about the pre-hearing call, indicating that it helped them to be 'camera ready' for their hearings. It also allowed each participant to organise the room in a way that made it suitable for the occasion.

A similar process is used for virtual hearings before the Victorian County Court. The judge's associate or tipstaff conduct a check of the technology and the remote environment in a 10 to 15-minute window before the hearing commences²⁰.

To ensure visibility and appropriate appearance, a checking process might also advise about lighting, appearance and clothing. This can include a reminder about formality and appropriate dress. The goal of such information should be to ensure that users feel comfortable in the court setting, not feel embarrassed, and feel able to participate effectively²¹. A participant should know how they look on a screen in the court.

²⁰ County Court of Victoria, Criminal Division hearings – Webex, Information Guide, 9 April 2020, p.10, <https://www.countycourt.vic.gov.au/files/documents/2020-04/criminal-division-hearings-webex-information-guide-version-1.pdf>

²¹ One issue to consider is adequate lighting to make a person's face visible, and that that each participant's face is fully visible or and does not change colour if they wear clothes of a particular colour. Some video cameras select the brightest part of the frame as their reference points and tone down other colours; thus, the face of a dark-skinned person wearing a white shirt might not be visible at the other end. We are grateful to colleagues in Dutch courts and international tribunals in The Hague for these insights.

2.1 THE TRANSITION TO COURT

Walking up the steps to the courthouse, going through the main entrance, being searched, moving along the corridor and up elevators or stairs, waiting outside and then being called into the courtroom – these transitions provide the participant with information about the process and may help to create a respectful disposition. The UK virtual court pilot has attempted to recreate this ‘journey to a courtroom’ by requiring users to ‘enter’ a series of screens on their way to the video hearings. Each page provides important relevant information about their case, the time of the hearing, and court etiquette. Pages are branded with the coat of arms to remind participants of the solemnity of this process, and users are required to acknowledge that they are about to enter a formal court hearing. Immediately prior to a hearing, users enter a virtual ‘waiting room’ where they can see basic information about their case, a clock, and the status of the other parties (whether they are logged into their computers). Even if a prior one-on-one preparation has taken place, the waiting room can provide an opportunity for the participant to review the checklist, adjust microphone and camera (it might be a different time of day from the time the preparation call took place), and adjust clothing.

When ready to begin, the judge presses a one-minute countdown timer that will appear on the screens of all participants. At the end of the countdown the cameras and microphones turn

on and all parties can see and hear each other. In the UK study, users responded positively to the design of the virtual waiting room, stating that it gave them time to gather their thoughts and prepare themselves for their hearing. Judges also found this useful, as they could see when all participants were logged in and ready, and the countdown timer proved a smooth transition from the waiting room to the hearing.

A virtual waiting room or lobby can also serve to assist court scheduling. A listing of the day's hearings can be provided – customised to the type of user - allowing lawyers and other participants to indicate their presence and availability, and court staff to provide updated information about expected times.

The authority of the judicial officer might be less evident in a virtual court setting, due to the flattening of hierarchy produced by the screen configuration. In the single-screen configuration the judicial officer appears in a box, just like any other participant. The limited research on what effect this might have is equivocal. An experimental study we carried out using the scenario of a neighbourhood dispute before a tribunal found that participants in the study rated the tribunal member as less honest, competent and credible if they saw him on a screen compared to seeing him in person in a hearing room²². On the other hand, in the UK Tax Tribunal pilot, all participants considered that the hearing was suitably formal and serious²³. There have been several documented cases of disinhibited behaviour when everyone else is in the courtroom and a person in custody appears on a screen²⁴, but the situation may well be different if everyone is on a screen.

According to a senior Scottish judge who presided over a defamation appeal hearing over video link during the pandemic 'the hearing captured the ambience of a physical courtroom²⁵'. This was a civil appeal, consisting largely of prepared statements by lawyers and questioning by the three judges, so for carefully structured hearings like appeals, virtual hearings may indeed capture the 'ambience' of in-person hearings.

In a virtual court it will be harder for professional participants to engage in 'backstage' interactions or more informal and unstructured conversation, such as might normally occur in between hearings or during breaks. While many of these interactions could, in principle, be moved online, others might be more difficult, at least until a relatively high level of digital confidence is reached.

Furthermore, without the formal trappings of the courtroom, participants, including professionals, can appear or act more casually. One Brazilian judge appeared in a Zoom hearing without a shirt (before retiring to put one on²⁶). A Miami lawyer appeared in court from her bed²⁷. Sometimes this is unavoidable (such as the police witness appearing from his car in Figure 24), but care should be taken to preserve the formality of the hearing.

22 Virtual court pilot study, p. 28. The physical hearing room – a typical university seminar room – also had no features that gave it any appearance of authority, so difference in architectural features between the two settings is unlikely to provide an alternative explanation for this. However two of the authors are carrying a deeper analysis of the data to see if they can cast any light on why this apparent loss of authority may have taken place.

23 Rossner and McCurdy, 2018.

24 See for example: <https://www.canberratimes.com.au/story/6734355/cousins-pleads-not-guilty-but-denied-bail/?cs=14231>

25 Lord Carloway, Virtual court hears Kezia Dugdale defamation appeal, BBC News, 21 April 2020, <https://www.bbc.com/news/uk-scotland-52358830>

26 <https://www.dailymail.co.uk/news/article-8226831/Brazilian-judge-working-home-appears-Zoom-court-hearing-shirtless.html>

27 <https://www.smh.com.au/world/north-america/shirtless-poolside-in-bed-judge-slams-us-attorneys-for-casual-approach-20200414-p54jqn.html>

2.3 SIMPLIFYING PROCESSES

The longer a hearing takes and the more people involved, the more chance there is of technical difficulties. So it is worth considering whether there are ways of 'chunking' the process with smaller numbers of participants at particular points of time and simplifying the procedures.

2.4 MODIFYING JUSTICE RITUALS

Our earlier Gateways to Justice study (and the Guidelines that emerged from it²⁸) demonstrated that having higher quality technology and more respectful environments improved the experience of remote testimony for witnesses. Crucially, changing the way witnesses were prepared before the hearing and how they were acknowledged during the hearing also made a difference. We conclude that small modifications to the court ritual can help orientate participants and promote effective participation.

Our Guidelines draw on a wider range of studies and incorporates insights provided by judges, court administrators, prosecutors, defence lawyers, victim representatives and others from several jurisdictions. Modifications to the ritual include expanded introductions, acknowledgements, and breaks. These are even more important when multiple participants are remote.

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28 <https://courtoffthefuture.org/publications/gateways-to-justice-guidelines-for-remote-participation-in-court/> Project number LP0776248
<https://courtoffthefuture.org/publications/towards-distributed-courtroom/>

2.5 RECOMMENDATIONS FOR TRANSFORMING PROCESS AND PROCEDURE

TRANSITIONS

- 1 A virtual court should include some introductory information and a waiting room where users are reminded about the formality of the court, court etiquette, and updates on the status of their case.
- 2 Users should be able to converse privately with counsel (either through a chat function or video), preferably using a separate platform to the one used for the hearing.
- 3 The judicial officer (or a member of the court staff acting on their behalf) should initiate the hearings with a countdown to allow participants a few moments to ready themselves for this transition.

FORMALITY

- 1 Judicial officers and other professionals should limit their 'backstage' behaviour.
- 2 Judicial officers, court staff (if visible on screen) and legal professionals should also adhere to a professional dress code. If a robe and wig is not appropriate or available, they should be dressed in business attire.

SIMPLIFYING HEARINGS

- 1 Participants should be sent copies of documents in advance of the hearing, rather than relying on sharing screens or transfers organised during a hearing.
- 2 Witness interviews should be pre-recorded when appropriate. This avoids possible technology failures due to poor internet connections, and gives the court greater certainty about the duration of the hearing. The witness could be recalled if necessary.
- 3 Indicative time limits should be specified for witness testimony. This was in effect what happened when video sessions were booked with expert witnesses until recently, and time limits are normal with witnesses in French criminal trials. Extensions could be granted, but imposing time limits could increase efficiency.

MODIFYING RITUALS

- 1 The judicial officer can help other participants feel 'present' at a hearing, avoiding the alienation often experienced in virtual settings. To achieve this, additional interactions should be included in the process, such as a general welcome ritual, acknowledgement of the presence of each participant, regular checking that participants can follow what is happening, and thanking participants for taking part. Even in processes where a lay participant does not usually speak, some interaction with the judge could help to enhance the credibility of the process.²⁹
- 2 A hearing should begin with an acknowledgement of country. This is one way to identify the range of physical sites where participants are located. It is particularly important where indigenous participants are involved. This ritual is reasonably widely used in Australia, Canada and NZ, but an equivalent practice might be developed in other countries.
- 3 There should be regular short breaks in the procedure, including comfort breaks. Participants, including judges, should be encouraged to stand up and stretch to avoid getting sore backs or necks. Interpreters in international or European tribunals have shorter sessions before rotation when they are participating via video link rather than face-to-face.
- 4 These breaks could allow for clients to consult their lawyers, parties to confer, judicial officers to consult associates or check other matters.
- 5 A virtual meeting room could be used after the hearing involving a person in custody for a 'virtual family visit'. At a time when in-person visits are restricted, this is an essential service that can maintain the mental health of persons in custody as well as protect the safety of prison staff. When a person in custody comes to court it is one of the few times family members may see him or her, so a virtual meeting opportunity would help to maintain family ties – something that in the long run will promote better reintegration.

²⁹ French criminal trials typically include questioning an accused person about their current circumstances and background, which seems to have the effect both of humanising the person and including them in the circle.

3.1 TECHNOLOGY REQUIREMENTS FOR THE VIRTUAL COURTROOM

There are a range of common tasks used in many hearings that can be emulated in the virtual environment. The following table provides a list of many of these tasks, identifies the features in video conferencing platforms that enable that task to be performed, and lists some of the most commonly-reported problems in using these features.

Table 1: Actions carried out in hearings and how video conferencing software addresses these

ACTION	FEATURE	CHALLENGES
Notify participants of hearing time	Meeting code sent by email or text, links to scheduling systems	Need to confirm messages actually received
Regulate access to hearing	Provide password or PIN; lock meeting (prevent further entrants)	Uninvited participants/Zoom bombing - set defaults muted/no camera as well
Manage transition to hearing	Waiting room, with control over who enters hearing, and when	Two-level waiting room required to prepare participants adequately
Limit number of active participants at each stage of hearing	Restrict images on screen to currently active participants	Pre-sets required for each stage of hearing
Display evidence	Share screen (control restricted to authorised persons)	Video evidence may encounter bandwidth problems
Mark document	Annotate	Marking and saving annotated document for court record
Exchange documents between lawyers/judge/clerk	Send link in private chat to file-sharing platform, or use platform with integrated document sharing facility.	Requires users to switch between applications; security of file-sharing platform; some users may not have access to necessary hardware or software
Client requests opportunity to instruct lawyer during proceedings	Hand raise icon; or message in private chat	Hand raise icon less disruptive, but needs to be associated with person's image not on side panel
Confidential lawyer-client contact	Break out room, or separate application like WhatsApp, Facetime or phone	Separate application would need to be made available for persons in custody (PICs)
Sidebar or discussion between lawyers	Breakout room; second virtual room; others sent to waiting room	Other participants should get five-minute warning of resumption; confidentiality of breakout rooms would need to be confirmed
Indication user has difficulty hearing	Hand raise icon	Special icon might be better - hand cupping ear; Audible alert to judge could be useful (alternatively potentially annoying)
Allocate speaking turns	Mute/unmute switch; better to use platform where host can mute and unmute other participants	New users might need reminders about need to mute or unmute
Create courtroom 'feel'	Insert background image; embed participants in virtual environment; use immersive configuration	Requires adequate bandwidth
Recording	Built-in recording capacity, immobilise recording of break out rooms or private chats	Illicit recording, security of recordings, unauthorised disclosure; current non publication or suppression order could be indicated by subtitle

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Figure 37. McClothlin Courtroom <https://www.legaltechcenter.net/2018/04/17/clct-has-over-35-years-experience-assisting-the-legal-community-with-technology-counseling-and-courtroom-design-to-complete/>

3.2 SETTING UP TECHNOLOGY FOR HEARINGS

Most video link systems, whether hardware- or software-based, allow participants to join by a variety of means. Users who are asked to initiate the link are given an address, or URL, to use to dial into the hearing at the designated time. A second approach involves the 'host' initiating the calls, which in the case of a court hearing typically means the task is given to a clerk or court officer. A third approach involves a private company managing hearings. It is likely that all three approaches can be used for particular types of hearing. For example, lawyers and expert witnesses can be assumed to have suitable equipment and be able to dial in themselves without technical support. Other witnesses and lay participants might benefit from having the support of a court officer to carry out an equipment check before the hearing begins. An immersive video link, which involves in effect six separate 'calls' to connect four sites (or ten calls for five sites), would require the setup to be handled centrally. The third option, being tested in the McGlothlin courtroom in Virginia, potentially allows courts to delegate to a service provider the task of setting up virtual hearing rooms, checking equipment, managing bandwidth and connecting the participants at the required time. The NSW Supreme Court, for example, sends out invitations to interested parties (the default approach), but allows parties to set up a video conference through a private provider if they pay for it themselves.

Most courtrooms in Australia, the UK, Denmark, Sweden, the Netherlands, the US and Canada have built-in technology that can be used to support video links in hearings. Australian courts have video equipment that varies in quality according to when it was purchased. Dutch, Danish and Swedish courts tend to have standardised video equipment, with a single justice network and simple control panels for judges to use.

Other countries like Germany tend to have less video technology in court, but the pandemic has provided a spur to action to provide more extensive facilities both for courts and prosecution services in the future³⁰. Austria has a centralised booking system for managing video links; it also has at least one video facility in every courthouse, prosecution office and justice facility in the country³¹.

A small number of courtrooms have monitors in the 'correct' position for the relevant participant in a hearing. One of these is Shepparton, Victoria, where a screen just behind the bench comes down to present the judicial officer if appearing remotely. Another monitor is present behind the witness box. The McGlothlin courtroom in Virginia has operationalised this principle most fully, with multiple screens arrayed around the room.

In courtrooms that have simpler facilities, when multiple remote participants are taking part in a hearing they appear 'gallery style' on a single screen. This may be placed on a side wall of the courtroom. In a virtual hearing where the judge, plus associate and/or clerk, are the only people present in the physical courtroom, a screen placed on a side wall may provide restricted sight lines, so a duplicate screen can be required.

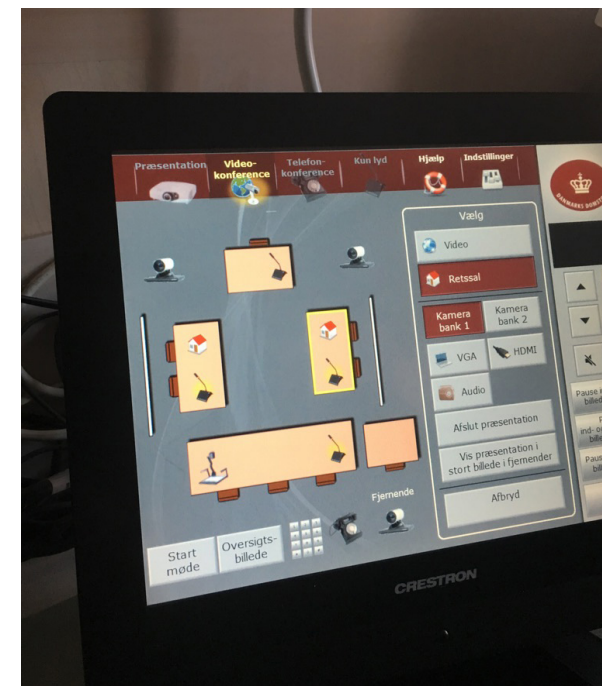
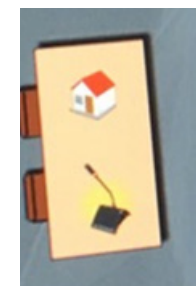


Figure 38. Video control panel on Judge's Bench, in Rønne Courthouse, Bornholm, Denmark. The panel (on left) allows the judge to choose between in-person and remote participants for the two parties and the witness by clicking on an icon (on right, a house for remote participants and a microphone for a local one). The judge can therefore mute and unmute in-court participants. Additional features on the screen allow control of a document camera and access to a remote interpreter. Photo: David Tait, 17 October 2018.



³⁰ See statement from German Judicial Association "Die Ausnahmesituation der Corona-Pandemie hat Lücken in der IT-Ausstattung der Gerichte offengelegt, die es zu beheben gilt." [The exceptional circumstances of the corona pandemic has identified gaps in courts' IT infrastructure, that will need to be addressed]. <https://www.drb.de/newsroom/presse-mediencenter/nachrichten-auf-einen-blick/nachricht/news/richterbund-fordert-mehr-tempo-bei-digitalisierung>

³¹ See: Europäisches Justizielles Netz (für Zivil- und Handelssachen): Österreich, https://e-justice.europa.eu/content_taking_evidence_by_videoconferencing-405-at-de.do?member=1

3.3 CONNECTIVITY

An additional challenge is adequate bandwidth for a disruption-free hearing. This has been a problem in metropolitan areas such as Sydney and Melbourne in Australia, but few problems are reported in the US. It is likely that lack of broadband capacity will be a short-term problem in cities, although it may take longer in remote areas which are more dependent on satellites or wireless facilities. In Australia during the pandemic crisis, while overall peak demand is from about 6 pm to 10 pm, usage at 11 am grew by over 70% in Australia from 28 February to 3 April 2020, according to the National Broadband Network³².

Technologies do not always work well all the time, and it is important to plan for what happens when video links do not work during a hearing. During early implementation, technical failures should be anticipated for one or more participants at least for some matters, and estimates for later hearings based on the experience of early hearings. (Of course, if technology failures are fewer than expected, that is a bonus, but it is essential to plan for a certain proportion of cases where technical difficulties are anticipated.)

It is hard to get estimates of the extent of technology failures for video-enabled hearings. One of the most comprehensive studies of US state courts by the National Center for State Courts, found that as of 2010, some 37% of courts experienced equipment failure on a regular basis³³. Observations done of the Federal Court of Australia in Sydney suggest that users should be prepared to log out and in again at least once every two hours, repeat statements (or ask for them to be repeated) at least four times an hour.

³² <https://www1.nbnco.com.au/corporate-information/about-nbn-co/updates/dashboard-february-2020>

³³ Eric T. Bellone, Videoconferencing in the Courts: An Exploratory Study of Videoconferencing Impact on the Attorney-Client Relationship in Massachusetts, Ph D dissertation, Northeastern University, 2015, p 118, <https://repository.library.northeastern.edu/files/neu:349724/fulltext.pdf>

3.4 RECOMMENDATIONS FOR AVOIDING DISRUPTIVE TECHNOLOGY

SETTING UP THE TECHNOLOGY IN A COURTROOM

- 1 When the judge is in a physical courtroom to conduct the hearings, we recommend that they be provided with an additional screen (with a camera) on the Bench to display remote participants and allow a full view of their face and torso for other participants to see. This avoids the judge having to strain to view a monitor located elsewhere in the courtroom.³⁴ A separate laptop or computer should also be available for the judge to use during a hearing, to take notes, examine the file, or consult with legal texts.
- 2 If a separate monitor and camera is not available, then we recommend that the Court re-arrange the furniture in the courtroom so the judge directly faces the courtroom monitor (perhaps by orienting an (unused) bar table towards the screen where the judge can sit. A variant of this is to provide a lectern facing the screen, with the judge standing. It is possible to provide for both options, the Bench or the lectern, depending on the nature of the matter.

CONNECTIVITY

- 1 Vary start times of hearing based on availability of suitable bandwidth.
- 2 Participants who are not active at that moment switch to audio-only (e.g. defence lawyer when prosecutor is speaking). This could be part of standard protocols, given as a routine request. However the 'host' (judicial officer or associate) would need to monitor the participation to ensure that users do not drop out due to technical failure .
- 3 Reduce the number of participants on a call (e.g. allowing media and family to participate as observers-only via video streaming).
- 4 Increase network capacity to support the peak number of hearings.

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³⁴ Alternatively, a portable screen on a stand could be placed directly in front of the Bench; this is the configuration in the new Amsterdam courts currently being completed. Swedish courts tend to use drop-down screens.

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REDUCING TECHNOLOGICAL DISRUPTION AND COPING WITH THEIR OCCURRENCE

- 1 Assume there will be regular problems with the internet, users' microphones, cameras and computers, and have an agreed process for identifying the issues and dealing with the problem
- 2 The judge should regularly request participants to indicate if a technical problem prevents them from hearing any part of the process
- 3 Carry out internet speed test at the location of judge (Bench, home or chambers) just before hearing is due to start; if it is not up to a specified standard, the hearing should switch to phone-only or be adjourned.
- 4 A help line should be available for courts and users to access during hearings. This could be a service provided by IT experts in each jurisdiction (or region) or a remote service offered by IT companies specialising in video links.
- 5 Have an alternative platform available to switch to in case the main platform ceases to work. This might be a software-based platform or telephone. The judicial officer, associate, court clerk, prosecutor and lawyers should have computers able to run the relevant backup software and have downloaded this in advance to their computers.
- 6 If two participants are using video conferencing software on the same call in the same room (e.g. judge and associate), they either need echo-cancelling software or one of them must switch off sound – in which case a loudspeaker attached to one of the computers would be required.
- 7 Regular participants (e.g. legal professionals) should establish an alternative internet connection to use where their broadband link fails. In many cases this will be a hotspot provided by a smartphone.
- 8 The court should ensure they have the email addresses and phone numbers of participants so an invitation can be sent to them to access an alternative platform or to inform them about a deferral of the hearing.
- 9 The participants should be notified at the beginning of the hearing of the procedure to be employed in case of technical failure.
- 10 Consider running some hearings (or parts of hearings) as audio-only or via telephone. Tribunals have made extensive use of telephone testimony for at least 20 years, with considerable success.

In the following section, we identify possible uses courts may make of various types of alternative technology (including on-line interactions and virtual courts), as they resume operations. In most cases the solutions will be hybrid, using the most appropriate technology for each type of hearing or part of the process.

The following, non-exhaustive, list is roughly ordered by complexity, with the (apparently) simplest types of matter first. Possible problems for each type of matter are identified.

Before the coronavirus crisis, many courts had face-to-face hearings in which judges and lawyers checked their diaries and courtroom availability to coordinate court dates for new or continuing matters. These include 'mentions' and simple 'directions' hearings which identify the future steps to be taken in the case. During the crisis such practices were almost entirely replaced by online practices. It is likely that in some cases courts will find it more convenient to continue this practice for at least some matters.

Unlike virtual meeting rooms that can be switched on and off at will, the number of real courtrooms in any particular building are limited. Further the availability of physical courtrooms has additional unpredictability, in that it relies on the progress of other matters, either cases that take more time than expected or ones that are settled early through agreements or pleas. Courtrooms also vary in size and function, and with a backlog to be cleared after lockdown has eased, pressure on space could be overwhelming.

These constraints are likely to lead to decisions at the scheduling stage for greater use of virtual courts, whether gallery-style or immersive. Some procedural or preliminary matters might be scheduled for fully virtual hearings, with a video streaming option if public access is required. Other multi-purpose or multi-function spaces, where the judge is physically located, but others may be elsewhere – at least for some stages of a trial or other process - is one approach that may become widely used for such matters. Smarter scheduling software that predicts room use more accurately is also likely to be helpful in more closely matching supply and demand.

4.2 SMALL CLAIMS DISPUTES

Small claims disputes involve disagreements between parties over money, damage or services, with the amounts in question limited to between \$2,500³⁵ and \$40,000. Consumers might report damaged vehicles, faulty goods, poor workmanship, or over-charging, while firms are likely to be requesting payment for goods or services.

Many small claims can, and are, resolved entirely online, using an asynchronous online platform that collects the necessary information, offers options based on past cases, and records outcomes. Models for this approach include Ebay, PARLe in Quebec³⁶, and the British Columbia Civil Dispute Resolution Tribunal³⁷, with a pilot project showing promising results in Victoria³⁸. Such platforms allow parties to negotiate in this online environment. If negotiation does not produce an outcome a mediator can be requested (who could interact 'on the papers' - asynchronously), and if this fails an adjudicator could be requested. This is when a hearing, either in-person or on-line is scheduled.

Restricting the number of hearings required through greater use of online dispute resolution platforms means that resources can be focused on the areas where they are most required. However, hearings may also be scheduled where litigants are flagged as being vulnerable, having communication difficulties, where technology options are not available, or the matter is too complex. An additional risk with small claims matters is possible inequality of power and information between organisations that are 'regular players' and individuals with limited experience of litigation. While many of these would be picked up by intelligent software, some litigants may accept settlements that are unfair in order to avoid the stress of continued litigation.

With well-designed online dispute resolution platforms, the proportion of cases requiring a hearing is likely to be small. Because of the large overall number of small claims disputes, that small proportion is still likely to represent a substantial number of hearings. So various forms of virtual hearing could play a small but important part in the mix of tools available to tribunals or courts working in this area.

35 \$US2,500 - Kentucky, \$US10,000 - California, \$A25,000 - Queensland, \$A40,000 - NSW, \$NZ30,000 - New Zealand, \$C35,000 Ontario, England & Wales □ 10,000

36 <https://cyberjustice.openum.ca/logiciels-cyberjustice/nos-solutions-logicielles/parle-2/>

37 <https://civilresolutionbc.ca/how-the-crt-works/#1-get-started-and-apply>

38 <https://www.vcat.vic.gov.au/news/sharing-vcats-online-dispute-resolution-experience>

4.3 NEIGHBOURHOOD DISPUTES

ISSUES FOR SPECIFIC HEARING TYPES

Neighbourhood disputes typically involve differences of opinion between residents who live near each other about issues like noise levels, appropriate use of land, overhanging trees and boundary fences. In Singapore the most common issues that come before the Community Justice and Tribunal System (CJTS) include noise, smoke, vibration and smell. Like small claims disputes, many neighbourhood disputes can be resolved online or in relatively informal forums. In Victoria and Queensland, local dispute resolution centres provide free mediation services, resolving many disputes without the need to formalise them. In Singapore online dispute resolution methods at the CJTS are currently used, with e-negotiation (up to three rounds of negotiation), and synchronous e-mediation for which litigants can choose convenient dates. In British Columbia a similar system operates with the Community Disputes Tribunal (CRT). In Australia several such approaches are being developed³⁹.

One challenge with developing suitable online platforms for neighbourhood disputes is the variety of laws concerning the issues in question. Some types of noise are subject to control by local councils, such as whether residents are allowed to have roosters, and dealing with barking dogs; other types of noise, from loud motor vehicles or noisy factories, for example, might be a matter for state agencies. Trees can be treated differently according to whether they are on urban or rural land, whether they are protected or have heritage value, and risks they might pose to persons or property.

In British Columbia most of the negotiations between parties are 'pre-legal': most cases settle without formal application to the tribunal. This potentially means that a common platform could be used by tribunals and courts, up to and including mediation without the platform needing to take account of every subtle difference in the laws of different jurisdictions. As with small claims, more complex or heated disputes could require hearings, either in person or via video link. Having an ODR front-end would allow limited resources to go further.

³⁹ <https://lawreform.vic.gov.au/content/introduction-36>, 6.320

4.4 GUARDIANSHIP AND FINANCIAL MANAGEMENT

Adult guardianship legislation seeks to protect the rights of people with a decision-making disability, appointing or authorising substitutes to make decisions for the person in relation to housing, money matters and health care. Guardianship tribunals or courts may also provide direct consent for major health interventions. They can also play a role in safeguarding the interests of a person against financial exploitation. Australian states and Canadian provinces have developed simple and inexpensive (mostly free) procedures for application and taking part in hearings, with tribunals able to sit in a variety of spaces often to suit the convenience of the persons subject of the applications.

Online platforms guiding applicants through the application process can be helpful in providing information, collecting necessary documents, explaining options and describing the procedures used in handling applications. Examples of this can be found in Western Australia and Victoria⁴⁰ Tribunals handling guardianship and financial management matters have been holding video-enabled hearings for at least 20 years. Mostly the remote participant is an expert, such as a medical professional confirming a diagnosis, although family members elsewhere can also participate in this way. While the formal purpose of a hearing is to decide whether particular orders should be made, the benefit of hearings for some of those involved is the chance to tell their story, to be listened to and for service providers to be questioned about their actions to support the person for whom the order is requested.

⁴⁰ In Western Australia there is a smart form available, which can be used either for guardianship or strata disputes, <https://ecourts.justice.wa.gov.au/eCourtsPortal>. In Victoria a similar process is available, known as a Guardianship Hub, <https://www.vcat.vic.gov.au/resources/application-for-order-appointment-of-an-administrator-and-or-guardian>

This benefit is probably more evident in jurisdictions that have a tribunal model (Australia and Canada), or a specialist court (juge des tutelles in France), than those that use more traditional court processes (NZ, the US, and the UK).

Like many other courts and tribunals, the mix of hearing types could potentially include virtual hearings. Given the vulnerability of the groups involved, there is a risk this could lead to further marginalisation, particularly if the type of hearing was determined on cost grounds. However there are several types of situation where a virtual hearing could be justified: handling emergency applications (although on the paper decisions are more likely), when the person cannot travel to the hearing site and the hearing would otherwise take place without them, when they can appear together with an advocate to support them, and when a face-to-face hearing would require a long delay.

4.5 PRE-TRIAL MOTIONS BEFORE SUPERIOR COURTS

Before a trial or sentencing hearing, superior courts sometimes hold in-person hearings at which the judge and two legal teams set the boundaries for the process to follow. Arguments are made about evidence to be included, which witnesses should be able to testify and whether the case should be dismissed. Litigants or defendants may be present, but they are unlikely to take part. Such hearings are relatively high stakes, so simple gallery-style virtual hearings are unlikely to be acceptable. However immersive virtual courts may allow the lawyers to develop their cases in an interactive environment, the judge to scrutinise the arguments and come to a decision. It is likely that the three key players – judge and the two legal teams – will have access to immersive facilities, so be able to engage in the high level of interaction enabled by an immersive virtual court arrangement. Observers, such as litigants or defendants, family members or media, can be provided with a gallery-style video feed from the hearing.

Major trials are likely to have pre-trial hearings that can last for months, if not years. It is likely that at least some of the matters can be dealt with using virtual technologies, even if some require use of physical courtrooms.

4.6 APPEAL COURTS

Appeal courts do not generally assess credibility or weigh evidence. For the most part they hear legal arguments by lawyers about matters like errors of law made by trial court judges, whether decisions were correctly made, and whether sentences or awards were consistent with established principles. For these reasons, appeal courts have been more willing to hear oral arguments on video links. US Appeal Courts have long allowed lawyers to present their argument in this way. With greater use of video conferencing for trial courts, appeal courts are increasingly likely to have access to video recordings of evidence rather than just written transcripts.

During the pandemic, the NSW Court of Appeal and the Court of Criminal Appeal heard all the cases scheduled for the period, using a virtual court facility, and no cases were vacated as a result of the shutdown. Judges tended to be in a physical courtroom – although not always – while legal practitioners were required to take part from elsewhere, most commonly their homes.

4.7 TRAFFIC COURT

ISSUES FOR SPECIFIC HEARING TYPES

Traffic violations, such as speeding or driving through a red light, are already processed by online justice processes in many jurisdictions. In NSW for example some 604,000 drivers were fined after being detected by a camera in 2018-19, compared to just under 50,000 who appeared in a local court charged with a traffic offence. Another 220,000 were issued fines by police, another automated justice process. Very few people appeal these penalty notices, discouraged both by the time and extra expenses involved. One form of accountability for such systems would be to have an accessible appeal system handled by a virtual court. This could be managed centrally in each jurisdiction. Singapore has a traffic e-appeal system, managed by the police. Other jurisdictions would probably opt for appeal processes handled within the court system.

Apart from appeals against administrative fines, a video-enabled traffic court could potentially handle some more serious driving offences like driving without a licence, drink-driving, careless, reckless or dangerous driving, and failing to render assistance for someone injured. There are several types of situation where a virtual court of some sort could be appropriate for such offences: when the accused is likely to have to drive to the court because of lack of public transport (and drive home again, potentially after losing his/her driving licence), where the accused currently lives elsewhere from where the alleged offences took place, and where backlogs need to be cleared. In the Northern Territory, video links can be used to allow police officers to testify on traffic matters rather than having to drive long distances for short hearings. This principle could equally be used for defendants.

For a virtual traffic court to be accessible to all of those who need to use it, suitable video facilities should be available in public buildings like libraries and council offices. Police stations are not ideal for this purpose because they may not be seen as neutral by members of some communities, but if necessary they may be used.

4.8 SENTENCING HEARINGS

Sentencing hearings can range from two-minute hearings for a shoplifting offence to a three-day hearing for multiple homicide. While many hearings may be more suitable in a physical courtroom, others may not. Having a suitable mix of facilities available to sentencing officers will allow the court estate to be used most effectively. During the pandemic sentencing hearings in many jurisdictions took place using video technology so courts have developed experience in using it⁴¹.

In general, a key argument for having sentencing hearings in person is that the ceremony allows the community to see justice being done; it potentially increases confidence in the justice system as it allows ordinary people to understand the careful calculations that underly sentencing decisions. It also allows judges to use sentencing as a therapeutic opportunity if they consider it appropriate. There are several factors that would weigh in favour of the participants being physically present in court: the matter is sufficiently important that the public would expect a traditional court sentencing ritual; there is substantial public interest in the particular case requiring access for the media and wider public; it is more convenient for family and friends of both victims and offenders, and suitable for hearing witness statements; and there are a large number of defendants or lawyers. Defendants may also take the proceedings more seriously.

But even for some of these cases, there will be situations where one or more of the parties takes part by video link. In a court located in a remote community, the prosecutor or defence lawyer might appear on a screen, particularly if the matter is less serious and there is little dispute about penalty. Some family members may find it more convenient to see the proceedings via video stream. Rival organised crime syndicates may be less likely to engage in altercations if they are given access via video stream rather than invited to mingle together in the public gallery of a court⁴².

There are several situations where the default option might be a fully virtual court. These include sentencing for additional offences for which a person pleads guilty while in prison for other offences, a range of non-indictable or misdemeanour matters and matters for which the defendant requests this option (and there are no victims or civil parties involved in the case who object).

In the US there are additional constitutional objections to sentencing by video link, with courts interpreting the concept of presence to be limited to being co-located. The placement of the accused at the Bar table in the US also allows the client to receive support and information from their lawyer, something clients are generally less able to receive in most other common law countries.

⁴¹ One of the authors observed video hearings in the early 2000s in a suburban London court. The registrar informed researchers that video links were not used for sentencing. The first hearing observed turned out to be a sentencing hearing.

⁴² Western Australia had experience of rival gangs causing trouble in court, so provided video rooms to accommodate members of the different groups.

Drug courts, mental health courts, family violence, indigenous courts, and various other courts dealing with special audiences –typically involve considerable engagement between judicial officers, support staff and the people who are subjects of the proceedings. This is true also for many children's courts. Interaction in person can allow a rapport to develop, particularly when the conversations do not involve mediation through a lawyer. However, there are some occasions where virtual courts of some sort could be useful.

- First, many of these forums involve the person making several appearances over a period of time. Even if initial hearings are held in person, subsequent or follow-up hearings could involve video technology. The subjects of the proceedings might be attending treatment or training of some sort in a different area, and coming back to the courtroom could disrupt this. With young people, part of the treatment might involve keeping the person away from what are considered bad influences, so returning to the area where the peer group is based might be unwise.
- Second, specialist staff might not be available in every town and suburb, so there might be a choice between providing a full-service hearing via video and a summary hearing conducted by someone who is not familiar with the particular needs of the group in question. Local police, lawyers and prosecutors might take part in the hearing should there be any local context that needs to be taken into account.
- Third, in most jurisdictions there are considerably fewer therapeutic courts available than the court executives and advocates for the relevant groups believe are required, in part because of the perceived cost of the courts. While providing fully virtual courts might not always achieve the quality of interaction possible in face to face situations, they are likely to provide better quality experiences than standard court processes.

4.10 PRELIMINARY HEARINGS FOR PERSONS IN CUSTODY

For preliminary hearings before the pandemic, many defendants who were in custody already routinely appeared by video link for a court hearing. From one NSW prison, Silverwater gaol, for example, with an average population of about 1,200, there were some 100,000 video links to courts in a single year, plus another 60,000 links for lawyer consultations⁴³. Other jurisdictions are largely moving in the same direction. What happened during the pandemic was that multiple participants were remote, not just the accused.

One research study in NSW suggested that the experience of persons in custody appearing via video link in court was undignified and potentially unfair to the person, with sounds of the prison intruding into the hearing⁴⁴. Ironically, for the most part, a person appearing from prison on a screen in the courtroom remains silent, so it is the sounds of the prison, not the voice of the accused, that is heard by the court. This criticism applies to older video conferencing units used in prisons, and has been largely addressed in jurisdictions like the Netherlands.

An ongoing issue however with prison links is access of the person in custody to counsel. One of the arguments for bringing an accused person to court in the US is that they can sit alongside counsel; not only does this humanise the person, they can communicate with their lawyer by touch and gesture⁴⁵. The opposite argument can be made for most courts in the UK, Australian, French and Canadian courts where defendants who come to court in person are placed away from their counsel and put in glass cages or docks that may tend to dehumanise them. So the relative advantage of remote or in-person bail hearings may depend on where the accused sits for an in-court hearing. In principle, contact with counsel may take place by text or other means, but this may be less feasible for those with limited literacy skills in the language of the court, who are likely to be over-represented in the prison population.

⁴³ Estimate provided to one of authors during visit in 2019 to AVL facilities in the prison.

⁴⁴ McKay, Carolyn, Video Links from Prison: Permeability and the Carceral World (2016). *International Journal for Crime, Justice and Social Democracy*, Vol. 5, No. 1, pp. 21-37, 2016; Sydney Law School Research Paper No. 17/23. Available at SSRN: <https://ssrn.com/abstract=2937479>

4.11 FAMILY VIOLENCE MATTERS AND DISPUTES

ISSUES FOR SPECIFIC HEARING TYPES

There are different issues according to the type of hearing. For bail hearings, counsel needs to obtain information about alternative accommodation options for the person in advance, as well as evidence relevant to the specific charges and whether there is a presumption of bail or not for them. For plea hearings, contact with counsel is essential, including in some cases organising a mental health assessment, while judicial officers would need to pay special attention to ensuring that the accused has considered the relevant issues and entered the plea freely⁴⁶. Judges may consider this task more challenging without being able to see the demeanour of the accused in person. For both bail and plea hearings, access to family members (whether of victims or of the accused) could be relevant to whether a remote appearance from prison is appropriate.

Applications for intervention orders in family violence matters can be made online in many jurisdictions⁴⁷. There are typically four subsequent steps, all of which could be done using video links. A judicial registrar (or whoever is responsible for processing the orders) confirms the details provided in the online form and makes an interim order. The application has to be served on the respondent, typically done in person.

A magistrate may hold a mentions hearing and (if the matter is contested) a directions hearing and contested hearing before making a final order. For each of these stages all participants could appear by video link, and during the pandemic many did this. One of the challenges is likely to be ensuring adequate video facilities for both the applicant and respondent. If they are still living in the same home, this may be difficult.

⁴⁶ One example where a video plea hearing was cut short was a case in which the lawyer was entering a not guilty plea for a client (appearing from prison), when the suspect interrupted the lawyer to say he was guilty. Newcastle Herald, June 22 2020, <https://www.newcastleherald.com.au/story/6800840/i-am-a-murderer-man-accused-of-killing-girlfriend-makes-shock-confession/?cs=9397>

⁴⁷ For example, see the process in Victoria: <https://www.mcv.vic.gov.au/intervention-orders/family-violence-intervention-orders/applying-intervention-order-fvio>

4.12 HEARINGS INVOLVING INTERPRETERS

Virtual courts also present a challenge to interpreters, who are routinely used across all jurisdictions. Extensive research has been carried out by Sabine Braun and colleagues into the use of video links in court interpreting, both in Europe and elsewhere⁴⁸.

For the interpreter, interpreting in an online interaction is more tiring than an equivalent period spent in a face-to-face environment, so sessions should be shorter and breaks more frequent. The interpreter will need to see a speaker's face and arms/torso so that they can interpret gesture, and speakers need to pause after speaking to allow an interpreter to catch up. If the interpreter for a remote witness can be with the witness this tends to make for easier communication than if they are in two different locations

4.13 EVIDENCE PHASES OF A TRIAL

Having an accused person in court to hear the evidence against them is a stage for which in most jurisdictions the 'presence' of the accused is required. The reason for this is the accused should be able to 'confront' his or her accuser, permitting cross-examination to test the reliability of the evidence, and presumably increasing the chance that the accuser will be truthful. The clearest statement of this principle is the Confrontation Clause in the US Constitution, although as Lord Bingham opined, it is considered a 'long-established principle of the English Common Law'⁴⁹. In order for this confrontation to occur the witness and the accused need to be in the same room and presumably able to see each other.

One of the key types of offence where such confrontation might be particularly critical is when there are two competing stories, that of the accused and that of a victim or victims. One of the largest groups of such cases involves sexual assault matters or offences against children. In many jurisdictions the complainants routinely, or at least frequently, present their evidence by video link. Even in the US where constitutional constraints are stricter, the US criminal code permits such facilities to be used for child witnesses in four situations: where the children would otherwise be unable to testify because of fear, they would experience emotional trauma, they suffer a mental or other infirmity or the conduct of the defendant or counsel affects their ability to continue testifying⁵⁰. According to most research seeing the witness on a screen does not affect the credibility of the witness in the eyes of the jury and the likelihood of conviction⁵¹. Such studies therefore support the trend towards making video links available for witnesses.

There is however another approach to allowing a witness to testify live without being in the physical presence of their alleged assailant: moving the accused to a video room to watch the testimony. This is routine in Sweden for cases involving vulnerable witnesses, and has been used in common law jurisdictions albeit with the consent of the accused⁵². In neither case is the accused in the same room as the witness, so the possibility of physical 'confrontation' is excluded, but at least the jury (or in the case of Sweden, the judge and lay associates) can assess the witness directly without the medium of a screen.

The issue for developing virtual courts is not so much whether witnesses can appear from a remote location – that battle is over, at least for vulnerable witnesses – but whether the accused can either choose to, or be required to, take part in some, or all, of their trial by video link.

What is of critical importance during this stage is that the accused can hear what the witnesses say, understand its relevance to their case and have the opportunity to test the claims. Hearing what is said can be a problem for defendants in court if they are placed in glass docks as much as for those listening over a scratchy video link. Interestingly in a mock virtual jury trial conducted by the JUSTICE NGO in England, participants commented that the quality of audio was better on a video link than it normally would be in a physical courtroom⁵³.

50 18 U.S. Code § 3509

51 See for example Taylor, N., & Joudo, J. (2005). The impact of pre-recorded video and closed circuit television testimony by adult sexual assault complainants on jury decision-making: an experimental study. Canberra: Australian Institute of Criminology; Eaton, T, Ball, P, O'Callaghan, M (2001) Child-witness and defendant credibility: Child evidence presentation mode and judicial instructions. *Journal of Applied Social Psychology* 31(9): 1845–1858; Ellison, L., & Munro, V. E. (2014). A 'special' delivery? Exploring the impact of screens, live-links and video-recorded evidence on mock juror deliberation in rape trials. *Social & Legal Studies*, 23(1), 3-29.

52 Information provided by NSW Office of the Director of Public Prosecutions

53 AVML, op. cit "Patricia Hitchcock QC, recorder of the Crown Court, said: "I was impressed with how much better my view of all the participants was than it usually would be for a juror in court, and by my ability to hear everybody involved."

Making sense of the evidence as it is presented can be assisted by sitting alongside counsel (as in the US, Scandinavian countries, the Netherlands and Germany), or nearby (as in Ireland, NSW and South Australia, but not for the most part Victoria). If the evidence is in the form of an audio-visual or interactive display, the display would need to be available to remote viewers. This can work with an immersive video platform, in which one of the screens can be used for the display. The central screen could be used for evidence, the left screen for the witness and the right screen for the person asking questions. However with a single screen configuration, it is difficult to get an adequate view of the display and the questioner at the same time.

Being able to test the evidence generally takes the form of cross-examination. If a legal representative takes on that role, an opportunity to give instructions in private must be built into the process. In the UK mock jury study organised by JUSTICE, a private break out room was provided for this purpose, and most of the widely-used video software products have this as a standard feature. If a person is self-represented, however, understanding the process, managing the software and trying to present a plausible defence may make remote participation of an accused person impractical.

Approaches to address some of these issues include:

- An acoustics check should be made for the location of the accused and the technology available to them before the prosecution evidence begins.
- The accused should be able to keep in touch with their counsel while a prosecution witness is speaking. There are several possible ways of doing this, including – an electronic hand signal or private chat request within an online platform, text messaging, or another social media app such as WhatsApp. The confidentiality of such methods needs to be tested, perhaps in a 'hack-a-thon' in which coders try to break into such rooms.
- After each witness, or at breaks in proceedings (20-minute intervals were suggested above), the accused should be able to consult counsel.
- A virtual breakout room should be available for private lawyer-client consultation. The confidentiality of such rooms need to be established however.

4.14 JURY TRIALS

Juries are generally reserved for more serious matters, at least in the criminal jurisdiction. For the most part jury trials are not suitable to be run using virtual court technologies. During the pandemic most jurisdictions around the world have suspended jury trials and either postponed a trial or held it with a judge sitting alone. As they resumed in a covid-safe way, many court systems provided larger jury spaces, typically by using a second court room

4.15 JUDGE ONLY TRIALS

Most jurisdictions have provisions for judge-only trials, even if this right is rarely exercised. Even in the US, where trial by jury is a constitutional right, an accused person may waive the right to trial by jury, although this also requires the consent of the judge and in some cases the prosecutor. Australian states and territories (except Victoria) have a similar provision, though this does not extend to Commonwealth offences.

There are several issues to consider when deciding whether a judge-alone virtual trial should proceed (after the appropriate consents have been given). These include:

- 1 Are there significant matters of public interest involved such that a jury trial is warranted?
- 2 Will the defence be able to satisfactorily cross-examine prosecution witnesses, given the quality and variability of the technology available, the skills of the advocate and the complexity of the evidence?
- 3 Can the accused adequately instruct his/her counsel both before each witness testifies and during the examination-in-chief and the cross-examination?

ISSUES FOR SPECIFIC HEARING TYPES

Members of our team have explored the feasibility of virtual juries, for some special types of situation. The two areas where there is a reasonable case for considering the possibility of video-enabled juries are:

- 1 Where the safety of jurors cannot be guaranteed and jury trials are replaced with judge-only trials.⁵⁴

To maintain the possibility of a jury trial for such matters, a jury could potentially watch the entire trial by video link from an undisclosed location. A video wall or other immersive technology would be required to allow jurors to see the whole courtroom and all the participants. They would sit together in the same room and deliberate face-to-face. They could see everything that is happening in the courtroom, but only the judge and counsel could see them.⁵⁵

In this two-site trial, the jury would be together: they would watch the trial together, see each other during court breaks, and deliberate together. They would not use technology to communicate with each other. So while this configuration could be useful to allow juries to be used in situations where juror safety is an issue, this approach would not be relevant when jurors need to be kept at a distance from each other.

⁵⁴ Examples where such procedures have been introduced in common law jurisdictions include: Northern Ireland, with so called Diplock courts between 1972 and 2007 used for terrorism and other related offences; and the Republic of Ireland with Special Criminal Courts, also introduced in 1972 for a similar reason and still available. In France, juries were abolished for terrorism and organised crime matters in 1986. In Russia terrorism trials were also removed from juries in 2010, reportedly because of jury intimidation, although a high acquittal rate may have played a part in the decision.

⁵⁵ Some adjustments might need to be made to the procedure for peremptory challenges (not an issue in England and Wales, Scotland and Northern Ireland where they were abolished), but elsewhere where the defendant has the right to see potential jurors, this right might have to be entrusted to counsel.

2 For cybercrime matters, to avoid an impasse over extradition.

Cybercrimes occur without regard to national borders, and prosecutors seek to bring suspects to their jurisdictions to charge and prosecute them. However, several countries have a constitutional prohibition on extraditing their citizens, or refuse to do so, and are unable or unwilling to have the matters dealt with by national courts. It might be possible to have an international cyberjustice tribunal. If the tribunal decided to use juries, half the jury might be drawn from the jurisdiction where the harm was experienced (or the prosecution was based) and the other half drawn from the jurisdiction where the accused lives. This arrangement is based on a jury selection process known in common law countries as a jury *de mediatate linguae*, which could be used where there was a particular risk of prejudice against an accused. Such an arrangement was used in the New England colonies in seventeenth century New England in cases involving Native Americans⁵⁶, also in New Zealand in cases involving Maori, Barbados, Nigeria, Aden, Brunei and the Federate Malay States, Nyasaland, and in a different form in Malta and the Gold Coast. It was employed in Cork in 1865 to try an American Fenian. While it was formally abolished in England and Wales in 1870, and New Zealand in 1962, the institution offers a possible solution to the cybercrime extradition dilemma.

Like the protected jury scenario, this type of matter would involve a split court. In this case there could be multiple locations: the headquarters of the organisation where the judge and court services would be located, the place where the prosecutor is based (and the evidence available), and the place where the accused lives. The jury would be split between the latter two sites. The judge and two parties could see and hear each other either in the simple one-screen configuration or using an immersive arrangement. Half the jury could be in the same courtroom as one party and the other half in the same courtroom as the other. Alternatively, they could view the entire court scene remotely re-assembled into a virtual environment and presented on video walls. For deliberation they could use a telepresence suite described above – half of them would sit at a table with three video screens presenting their fellow jurors in the other location looking at them, life-size, from across the table.

⁵⁶ Howlin, N. (2010). Fenians, Foreigners and Jury Trials in Ireland, 1865–1870. *Irish Jurist* (1966-), 51-81.

3 A dispersed jury.

The two scenarios outlined above could possibly justify the use of remote juries for two special cases. The third type of remote jury, one that is being explored during a time of pandemic, poses considerably greater challenges. Not only would the jury would be dispersed, but the prosecution and defence might potentially be in different places. The judge might be in a physical courtroom, although the technical challenge would be the same regardless of whether the judge was in a courtroom or anywhere else.

As with the protected jury, and the cybercrime jury, members of the jury should ideally see the whole courtroom scene. If the parties are dispersed, the scenario could be displayed in a three-screen configuration with the active participants embedded in a virtual courtroom. The preferred option would be a three-screen immersive pod for each juror; this could be provided by the court. Jurors would not be able to see each other or communicate with each other while the court is in progress using this arrangement. (In regular trials jurors would not normally be allowed to talk to each other during this time, so this is not a serious problem). Before the trial begins each session, during breaks, and for deliberation, they could use a regular video conferencing arrangement with a gallery view of other jurors. The judge and counsel would be able to see the jury at all times when the court is in session.

A modified regular video conferencing system could allow the jurors to see the speakers during the trial, but not their context. As in the UK pilot virtual court study, the judge would be at the top of the screen and the parties and witness on the next level, occupying most of the screen. The jurors might appear in small boxes as a row along the bottom, or visible only to the judge. The jurors would be sent to a single break out room before and after sessions, and for deliberation. A somewhat improved configuration was developed by the NGO JUSTICE to provide a proof of concept for a virtual jury, using Zoom.⁵⁷ The judge was in a larger box than the jurors, who were placed together into a sort of virtual jury box.

A potential advantage of a virtual courtroom for jury trials in terms of fairness to the accused is avoiding the prejudice produced by the use of a glass cage, dock or other mark of confinement as the US Supreme Court has consistently ruled⁵⁸. One of the observers of this mock trial was a former UK shadow Attorney General, who offered the following reflection:

⁵⁷ <https://justice.org.uk/wp-content/uploads/2020/04/Mulcahy-Rowden-Virtual-trials-final.pdf>

⁵⁸ See: Tait, D. (2011). Glass cages in the dock: presenting the defendant to the jury. *Chi.-Kent L. Rev.*, 86, 467.

Crucially the defendant's 'box' was not a 'virtual dock' but a simple visual square like all the others. I have no doubt that this will have contributed to a greater psychological 'equality of arms' between him and the key prosecution witnesses in particular.⁵⁹

A summary civil jury trial using Zoom was tested in Texas⁶⁰. This type of proceeding provides a condensed version of the trial, with the decision of the juries being advisory. The test showed the technical feasibility of such processes, at least for short matters in a civil context. It also provides an example of a potential breach of privacy by openly displaying the names of jurors under their images.

Virtual jury trials, such as the types elaborated above, would be very difficult to organise and manage. The complexities would need to be fully examined by law reform commissions before any such changes are considered. Many of them would need legislative changes after a full public debate so could take some time to bring about.

The following are some of the issues a review of the feasibility of virtual jury trials could potentially consider:

- 1 Should different styles of jury deliberation accountability be considered for online trials? Both French and Japanese juries, among others, have a judge chairing the deliberation (accompanied by two other judges) and voting⁶¹. Spain has a common law-style jury system, but a legal officer is present to assist in writing up the decision, as jury verdicts can be contested at appeal.⁶² If there is doubt about the ability of twelve lay jurors to make sense of a process where they have a partial view of the courtroom scene, or there might be suspicions about how seriously online jurors take their role, a written, contestable explanation for the decision could add another level of protection to the process.

⁵⁹ Guy Campos, AVMI pilots virtual mock jury trials, AVMI journal, <https://www.avinteractive.com/territories/uki/avmi-develop-and-pilot-first-ever-virtual-mock-jury-trial-service-with-justice-05-05-2020/>. In this article is included a photo of the courtroom layout, with the image of the judge larger, that of the jurors smaller (and in a block), and the defendant symbolically alongside his lawyer.

⁶⁰ <https://www.reuters.com/article/us-health-coronavirus-courts-texas/texas-tries-a-pandemic-first-a-jury-trial-by-zoom-idUSKBN22U1FE>. For an image of the Zoom screen, and a video clip of jurors taking the oath, see: <https://www.dallasnews.com/news/courts/2020/05/22/in-a-test-case-collin-county-jury-meets-on-zoom-for-the-first-time-but-some-lawyers-say-its-too-risky-for-real-trial/>

⁶¹ For a review of the different European approaches, see Jackson, J. D., & Kovalev, N. (2016). Lay Adjudication in Europe: The Rise and Fall of the Traditional Jury. *Oñati Socio-Legal Series*, 6(2).

⁶² This view was expressed most clearly in a decision of the European Court of European Rights (a decision which it might be noted was fiercely contested by English legal commentators), that a jury should give reason for their verdict, so that it could be properly subject to the scrutiny of an appeal process. See *Taxquet v. Belgium*, App. No. 926/05, (Eur. Ct. H.R., Jan. 13, 2009) available at <http://www.echr.coe.int>

- 2 Civil juries might be easier to introduce than criminal ones, because the standard of proof is less onerous, the size of juries is typically lower (most commonly six), and appeals are more accessible. This could be relevant in Victoria, Australia and Ontario, as well as US courts, but is unlikely to be useful in most common law jurisdictions where civil juries are limited to limited issues like defamation, or civil law countries which do not have civil juries.
- 3 In a case where the jury is protected because of potential threats to the safety of its members, precautions would need to be taken to protect the identity of jury members. Not listing the names of jurors underneath their images (unlike the Texas case referred to above⁶³) is obvious, but being able to see the jury could also be restricted to those the court considers need to have this view.
- 4 Trials considered suitable for virtual juries might be time-limited to reduce the stress on jurors appearing remotely from their home. Initially the limit might be set at one day, a period which could be reviewed based on feedback from jurors and courts.
- 5 Examination and cross examination of witnesses could be done in advance and recorded. This reduces the potential for technology disruptions when the jury is present. It could also allow for more contemporaneous testimony, which could also be used in a re-trial or appeal process.
- 6 Consideration should be given to how visual evidence should be presented to a jury, how copies should be made available to them and how they might review such evidence during deliberation.
- 7 Expert witnesses testifying about similar matters could confer together, providing a written report about matters on which they agree and identifying areas of continuing disagreement. This is done routinely in civil trials and might be considered for some criminal trials, subject to rights of the defence to object.
- 8 Display software should allow jurors to see documents while also seeing the speakers. One way to do this, with a three screen configuration is to have the display on the central screen (with the judge as an inset), the witness on one side screen and the lawyer asking questions on the opposite screen.

⁶³ See: <https://www.dallasnews.com/news/courts/2020/05/22/in-a-test-case-collin-county-jury-meets-on-zoom-for-the-first-time-but-some-lawyers-say-its-too-risky-for-real-trial/>

- 9 Many jurisdictions have potential jurors on call for a period of two weeks or a month. This period might be extended to two months, with extra effort going into screening and education.
- 10 The jury pool might be restricted to those with physically suitable spaces to use, suitable computers and stable internet connections. Alternatively, to avoid the bias in the jury pool such a restriction would produce, jurors who lack adequate computer facilities could be provided with them, and if necessary, appropriate spaces in local public buildings (e.g. libraries) could also be made available. The latter approach was used in the UK remote jury pilot described above.
- 11 The jury pool could be wider than just a local area, depending on the relevant legal restrictions. For example, in Australia for Commonwealth offences, a trial must be held in the state where the offence was committed, or otherwise 'such place or places as the Parliament prescribes'⁶⁴. In the US, trials are sometimes moved if excessive publicity could result in an unfair trial. Moving a trial online during a pandemic could be argued similarly to avoid the unfairness of indefinite detention awaiting trial⁶⁵.
- 12 Potential jurors should be given detailed training in use of the technology, asking questions, and engaging in civil discussion online.

⁶⁴ Australian Constitution, section 80

⁶⁵ Late medieval English juries were in effect witnesses with personal knowledge of the issues, typically about boundary, property or inheritance-related matters at stake in the case. Legal authorities including Blackstone, Coke and Granville all placed emphasis on the local character of juries, usually tied to the neighbourhood where the alleged offence was committed. A clear statement of this original link can be found in the 1773 Continental Congress explained that 'peers of [the defendant's] vicinage' coming 'from that neighbourhood may reasonably be supposed to be acquainted with his character, and the character of the witnesses'. Contemporary jurors however are chosen because they have no personal knowledge of the matters at issue in the trial, so the link to locality could be argued to have lost its relevance. In England the link between trial location and place of alleged offence was broken during a repressive period of Henry VIII's reign, and another repressive period under George I that produced the Black Acts. The threat of using such legislation to try Massachusetts colonists back in England led the leaders of the emerging American nation to place great weight on the need for juries to be local. The long-term consequences of this history is that US courts are more constrained in dispensing with the vicinage requirement than courts in other countries. For a useful summary of the background see: Connor, H. G. (1908). Constitutional Right to a Trial by a Jury of the Vicinage. U. Pa. L. Rev., 57, 197.

ISSUES FOR SPECIFIC HEARING TYPES

- 13 Where it is legal to do so (or legislation could be changed to permit it), juries might be restricted to six members. Two alternate jurors should be chosen to allow for jurors to drop out because of technical failures (or other reasons).
- 14 Counsel could be strongly encouraged to raise issues that require the absence of the jury only during a set time of day, typically 8 am to 9.30 am.
- 15 In regular in-court trials, sessions typically last for 90 minutes in many jurisdictions. With the additional stress involved in virtual courts, shorter sessions should be considered. Initially these might be 60 minutes, with the length of sessions reviewed after feedback from jurors. There might also be no more than four sessions per day.
- 16 After the court convenes and jurors return from their breakout room, they might be invited to direct questions to the witness they have just heard (directly, if expert witnesses; via the judge, if lay witnesses).

