

Opportunities for the use of VR technology in law enforcement

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As part of several EU-funded projects (2022-2026) from the ISF and JUSTICE fund - namely BIGOSINT, UNCHAINED, VR DigiJUST and VR DigiVET - on the use of virtual environments in law enforcement are being carried out by the Institute for Police and Security Research (IPoS)[1] and the Jean Monnet Centre of Excellence "Crime Investigations and Criminal Justice" (CCICJ) at Bremen University of Applied Sciences (HfÖV) in cooperation with the Civic Institute to promote the Rule of Democracy (CIRD),[2] police, judicial and civil society consortium partners.

Against this background, in particular; the VR DigiJUST project has given rise to a wide range of potential applications; This project is being carried out in a consortium with Fondazione Agenfor International, Corte di Appello di Venezia, Procura della Repubblica Presso il Tribunale di Firenze and Procura della Repubblica Presso il Tribunale di Rimini (Italy), Chambre Nationale des Commissaires de Justice and Institut Européen de l'Expertise et de l'Exper (France), European Public Law Organization (Greece) and Chambre Nationale des Huissiers de Justice (Belgium). The most relevant potential areas of application of VR technology for the target groups are discussed in this article.

[1] www.ipos-research.eu

[2] www.cird.eu

1. Background

There are currently no actual virtual court proceedings or police questioning and interrogations in Germany; in other EU member states, you will also look in vain for these. In the USA, however, this development has certainly begun in recent years, at least in a judicial context.[3]

So what is meant by the use of virtual technologies in criminal prosecution, regardless of the respective stage? In any case, it does not refer to the 'digitalization of justice' in the sense of the current legislative proposal,[4] which, in the given thematic context, merely aims to “replace the physical presence of parties to proceedings with a video conference connection”[5], whereby the use of VR technology is also conceivable here, for example to show a witness who is in another location and is connected to the courtroom under the conditions of section 247a of the German Code of Criminal Procedure (StPO) in three dimensions in the courtroom itself, which would have the advantage that any physical reactions could be perceived by all parties to the proceedings. VR technology is immersive technology that virtually depicts reality as an independent environment, so that keywords such as avatar and metaverse can be assigned here.

Immersive technology is already used in evidence, at least in exceptional cases, for example in the three-dimensional re-enactment of the Auschwitz camp in proceedings against a former concentration camp guard.[6] However, this regularly serves first and foremost to recreate the course of events and is therefore classified as forensics.[7]

However, this is not the subject of the projects referenced here; the question addressed here relates to avatar-based encounters in virtual space: The respective avatar as well as the space can be adapted or selected according to the circumstances of the situation; the aim is to investigate whether and, if so, how spatial and personal distance between actors involved can be achieved by creating trust.



Screenshot - AGENFOR Metaverse: Lobby.

[3] cf. www.reuters.com/world/americas/colombia-court-moves-metaverse-host-hearing-2023-02-24/

[4] www.bmj.de/SharedDocs/Gesetzgebungsverfahren/DE/2023_Weitere_Digitalisierung_Justiz.html?nn=110490

[5] Draft law of the Federal Government: Draft law on the further digitalization of the judiciary of 6.3.2024, p. 2

[6] VR Model of Auschwitz Helps Catch Nazis, www.theatlantic.com/video/index/586567/nazi-vr/

[7] Cieslak, Marc, Virtual reality to aid Auschwitz war trials of concentration camp guards, BBC, 20.11.2016; oV, Künstliche Intelligenz auch bei Ermittlungen zum Polizistenmord von Kusel im Einsatz, SWR, 1.2.2023; Heuser, Christoph, Im Auge des Betrachters, Süddeutsche Zeitung, 7.1.2024

Two scenarios are conceivable for a VR-based interrogation. (1) The interrogator (defendant, witnesses, experts) enters the virtual environment of a courtroom, in which they find themselves as an avatar: In this case, the witness's face would be at least partially obscured by VR goggles; the question is whether this would unduly impair the perception of the witness's testimony, as discussed in the context of the civil proceedings, even if this only affected part of the testimony and part of the face. It would have to be “weighed up whether these restrictions outweigh the added value that the court hopes to gain from the use of VR in individual cases”, research is also needed into “whether and how the use of VR technology influences the testimony of witnesses and whether there is a risk of retraumatization [...]”.^[8] (2) The witness or defendant is brought back as an avatar to the events underlying the criminal proceedings; as an avatar, he or she relives the factual situation. One advantage would be that information that may no longer be available, such as for example buildings that disappeared in the course of the event (think of arson), would be inserted into the real environment.^[9] This raises the question, which cannot be assessed from a legal perspective, of whether the witness's ability to remember would be enhanced or suggestively influenced by being transported back to the actual situation. From the point of view of witness protection, it must be taken into account whether being transported back to the crime scene could possibly lead to a trigger and to re-traumatization.

2. The current legal framework in Germany

In German criminal law, the principle of immediacy applies (Section 250 StPO) and, in the interest of obtaining evidence as reliably as possible, stipulates that the examination of witnesses and experts must generally take place in persona (substantive immediacy), i.e. cannot be replaced by reading out documents, and that the taking of evidence must take place before the court hearing the case (formal immediacy), which should gain a personal impression of the witness.^[10] Closely linked to this is the defendant's right to confrontation resulting from Art. 6 No. 3d ECHR. The principle of immediacy is already subject to breaches, which are based, for example, in the protection of vulnerable or endangered witnesses : Judicial or police authorities can prohibit the direct questioning of informants or undercover agents with binding effect for courts if this is necessary for reasons of personal security or effective criminal prosecution; questioning takes place indirectly by means of a questionnaire or by questioning the interrogating officer.^[11] There are further exceptions to the principle of immediacy, which is not constitutional,^[12] in the case of summary penalty orders - and in accelerated proceedings (Sections 420 (1), 411 (2) sentence 2). The principle of immediacy can also be deviated from with the consent of the parties involved (Section 251

^[8] Irskens/Heetkamp, Digitalization of the taking of evidence - new technologies in practice, RD 2023, 382, 385

^[9] *ibid.*, 386

^[10] Schmitt in Meyer-Goßner/Schmitt, StPO, 66th ed. 2023; KK-Diemer, 9th ed. 2023, § 250 para. 1

^[11] Ganter, BeckOK StPO with RiStBV and MiStra, Graf, 51st edition, status 1.4.2024, § 250, marginal no. 10

^[12] KK-StPO/Diemer, StPO, § 250 marginal number 1

(1) No. 1, (2) No. 3, 255a (1) StPO).[13] Possibilities for excluding the accused – as a deviation from the principle of directness – the Code of Criminal Procedure provides for this for reasons of witness protection (Sections 168c (3) and 247), whereby if the accused is excluded from the main hearing, the judge must inform them of the essential content of what was said or otherwise negotiated in their absence.

Video questioning is another example of a statutory deviation from the principle of immediacy: If it is conducted by a judge (Section 58a (1) sentences 2 and 3 StPO), it can be presented as a substitute for questioning in the main hearing (Section 255a (2) StPO). Simultaneous video questioning in the main hearing (Section 247a StPO), in which the witness is in a different room and is connected via video conferencing technology, is not a common practice in German courtrooms, but it is an established one. In this case, the hearing takes place under acoustic and visual shielding. In consideration of witness protection and the defendant's interest in his defence, it is possible to question the witness during the main hearing (Section 247a StPO in conjunction with Section 251 (2) StPO).

While Alt. 2 and 3 are likely to be of secondary relevance with regard to a BoD hearing, Alt. 1 and 4 provide starting points for a VR hearing. From the perspective of witness protection, can be helpful to enable the witness to testify in a comfortable atmosphere (e.g. in a child-friendly environment) using VR goggles. Although the other parties to the proceedings would not be able to see the witness's eyes during testimony, he or she could be physically present in the courtroom, so the VR hearing would be less distant (and therefore more immediate) compared to a simultaneous video hearing (Section 247a StPO), in which the witness is in a different room.

The use of VR technology in combination with section 247a StPO would be conceivable, which would mean less immediacy overall than the pure application of section 247a StPO, but still a plus compared to the exclusion of the accused in the case of questioning of co-defendants and witnesses in accordance with section 247 StPO, which, in addition to the fear that the witness would not tell the truth in the presence of the defendant, is also possible in the case of fears of considerable damage to the health of witnesses under the age of 18.

The defendant's right of confrontation would not be significantly restricted by VR technology, as he would have the opportunity to ask the witness questions as an avatar in the virtual world. The interplay of different breaches of the principle of immediacy shows that the use of VR technology in the courtroom should already be possible if there would otherwise be an urgent risk of serious harm to the welfare of the witness. The use of VR technology where the witness is in a location other than the courtroom should be possible accordingly if there is a serious fear that he would otherwise not tell the truth or if there is an urgent risk to his health (if he is to testify in the presence of the defendant in the courtroom). With the consent of the parties to the proceedings, the use of VR technology should be applicable in any case.

[13] Ganter, BeckOK StPO with RiStBV and MiStra, Graf, 51st edition, status 1.4.2024, § 250, marginal no. 3

It could be argued against the use of VR technology in interrogation situations that non-verbal communication is impaired by the glasses acting as a barrier between the witness and the other participants in the proceedings. However, non-verbal communication does not provide a reliable basis for assessing the credibility of a statement, which is why the specialist literature recommends attaching greater importance to pure content analysis: “In addition, [...] there is simply no significant difference in the detection rate of deception between active interrogators in a face-to-face situation and observing officers who receive recordings of the interrogation”.[14]

The possible objection that virtual environments influence the testimony, are suggestive or lead to false memories does not hold water either: Suggestive effects can be triggered both by the way the questions are posed if certain information is provided or pressure is exerted on witnesses (or defendants) to conform.[15] This can happen in the real environment and in the virtual environment, but if the VR hearing is recorded, any influences of the environment on the testimony can be better understood: Does the appearance of the judge have an impact, do surroundings and courtroom? What influence does a rattling streetcar have, the noise of which makes the statements of the parties to the proceedings – as in room 218 in Bremen District Court – partly incomprehensible?



Room 218 of the Bremen Regional Court, photo: Cora Sundmacher, Weser Kurier, 18.08.2016.

What about the size of a courtroom in which the judges sit behind wooden tables from the last century in dark robes and the witness in the chair in front of them feels small? Can an appealing virtual environment encourage a witness to testify? What influence do age, gender or ethnicity have on the interrogation situation? In police practice, it is common practice that a witness who has been the victim of a sexual offense can choose the gender of the interrogating officer (if available); this is not possible in the courtroom due to the constitutional principle of Art. 101 para. 1 sentence 2 GG. Could the judge be made more

[14] Schätzle, Julia in Kölbel/Walther (eds.), Audiovisuelle Vernehmung im Ermittlungsverfahren, p. 267 f.

[15] *ibid.*, p. 260

neutral (perceived) by playing a corresponding program via VR glasses by presenting him as a ‘property-cleaned’ avatar? Would inhibition thresholds that can arise be reduced, would a female victim of a sexual offense have to testify before a male judge? Does an avatar judge constitute a circumvention of the right to a legal judge? This requires research, which is currently being carried out in the above-mentioned projects.

It is clear that, in contrast to section 128a StPO, the possibility of using audio-visual technology in criminal proceedings for hearings by means of video and audio transmission *ratione personae* is more limited from the outset: In civil proceedings, the court may “allow the parties, their authorized representatives and counsel, upon request or *ex officio*, to be present at another location during an oral hearing and to perform procedural acts there”; here, the virtual hearing is at least discussed (even if Section 128a Civil Procedure Code is not unanimously seen as a sufficient legal basis), e.g. to counter jurisdictional conflicts.[16] *Ratione loci*, criminal proceedings currently require a meeting room, which means a haptic-physical room, not a virtual one.

Although the planned amendment to the law extends the possibility of video connection, *hearings in virtual space are not addressed*. In the legislative process, it was stated: “In the case of a court hearing in which the members of the panel do not have to be on site and can be separated from each other, it is questionable whether it is still an oral hearing directly before the recognizing court, in which the right to be heard is guaranteed at all times. For example, technical disruptions could go unnoticed, meaning that serious errors in the proceedings would go unnoticed and thus unreprimanded. It is also questionable how the confidentiality of deliberations between judges at their private residences is to be safeguarded”[17].

Although these arguments are not insignificant in the case of 'digitalization positivism', in particular with regard to the procedural rights of defendants and in terms of procedural transparency, is prevented from using innovative methods for the benefit of victims and co-plaintiffs, in particular in the case of offences involving the subjectively most personal sphere of life or particularly vulnerable parties to the proceedings – e.g. children. The argument of unnoticed technical or other disruptions must be countered with the fact that these can also occur during a main hearing in the physical presence of all parties to the proceedings and remain unnoticed. Once again, may be cited streetcar and courtroom 218 of the Bremen Regional Court – this is so loud that what is said in the main hearing cannot be understood either by the audience or by the parties to the proceedings. This raises the question already raised in the press as to whether the principle of publicity is still being upheld.[18] This

[16] Ehrlicke/Könen, UWG § 14 Sachliche und örtliche Zuständigkeit; Verordnungsermächtigung, in: Münchener Kommentar zum Lauterkeitsrecht, Rn. 5a, 3. Edition 2022; Irkens, Gesine/Heetkamp, Simon, Digitalisierung der Beweisaufnahme - neue Technologien in der Praxis, RD 2023, 382 (who do not consider Section 128a ZPO to be a sufficient legal basis for VR hearings, but also state that no explicit regulation has been made that the transmission of the hearing in image and sound or the hearing can only refer to the real person and not also to an avatar and a virtual courtroom”).

[17] Editorial team beck-aktuell, Verlag C.H. BECK, January 23, 2023 by Miriam Montag

[18] Hinrichs, Jürgen, Trial visitors outraged by poor acoustics, in Weser Kurier, 18.08.2016, www.weser-kurier.de/bremen/politik/prozessbesucher-empoert-ueber-schlechte-akustik-doc7e3f0bs3wg85r04k3wh

question is not comprehensible, as there is no recording of main hearings in criminal proceedings; with recorded main hearing in virtual space, any procedural errors based on technical causes could in any case be traced in retrospect.

3. Research findings on the spatial dimension

The implementation of the project has shown that spaces - such as the meeting room in this case - can be realistically presented with very little time and financial outlay in order to generate an orderly atmosphere and make it possible to live and experience them without restrictions.



Screenshot - AGENFOR Metaverse: Negotiation room.

The concept of 'break-out rooms' known from online conferences can also be convincingly presented in virtual space with regard to secure meeting rooms, e.g. for consultations.



Screenshot - AGENFOR Metaverse: Counseling room.

4. research result on the personal dimension

With regard to possible personal benefits, it has been shown that these can come into play in emotionally difficult situations: *From the victim's perspective*, moving all or part of the hearing into the virtual space can be advantageous because it is suitable for lowering the inhibition threshold; for example, in the case of sexual offenses.

In the case of *particularly vulnerable victims or witnesses* – for example, in the case of children, especially in cases of domestic violence – spatial abstraction can also make it easier for to reduce stress, allay fears and increase willingness to testify.

With regard to *defendants*, there are tendencies that the willingness to testify could be increased, but there is a lack of a truly reliable Statement (still) of the case numbers and control groups ceteris paribus.

From another procedural perspective, the use of VR technology can also be useful: In the case of so-called *key witness statements*, namely with regard to the accused (Sections 46b and 261 Criminal Code, 31 BtMG) as well as the victims (Section 25 (4a) AufenthG).

5. Research findings on the temporal dimension

Logging could be simplified (§§ 271 StPO) because VR applications record everything in their system - unless such functions are deactivated in relation to individual sections or altogether. Legally, however, things get complicated here: The main hearing record is a transcript of the course of the main hearing, which must be made in writing. Tape recordings do not satisfy this written form requirement[19], and the same must also apply to recordings in virtual space, which are ultimately nothing more than an audiovisual recording. Video interrogations that are conducted in preliminary proceedings in accordance with Section 58a StPO must also be recorded in the same way as interrogations without recourse to video technology, i.e. either transcribed verbatim or their essential content summarized. This applies to judicial as well as police and public prosecutor's hearings of witnesses, experts and defendants.[20] A distinction must be made for the main hearing: While the content of the witness hearings is not recorded by the clerk (as recording clerk) at main hearings of the district court, the clerk writes a “concise content protocol” for hearings before the criminal judge and the lay assessors’ court.[21]

German criminal procedure law does not provide for the replacement of written minutes by audio-visual recordings. Rather, tape recordings are regarded as an aid for the preparation of written minutes,[22] and video recordings of hearings are classified as part of the case file[23]. Even a hearing with VR glasses, if it were to be considered admissible at all under the current legal situation, would require a written record. This is where the practical problems begin:

[19] Schmitt in Meyer-Goßner/Schmitt, StPO, 66th ed. 2023, § 271 para. 1f., 6f.

[20] *ibid.* § 168b para. 2; Mewes in Kölbel/Walther (eds.), *Audiovisuelle Vernehmung im Ermittlungsverfahren*, Heidelberg 2024, p. 72 f.

[21] Schmitt in Meyer-Goßner/Schmitt, StPO, 66th ed. 2023, § 273, para. 15

[22] *ibid.* § 271, para. 8

[23] *ibid.* § 58a, para. 12f.

What is put in writing? Only what the defendant, witness or expert has said verbatim? Is the virtual environment to be recorded? What happens in the event of technical problems, such as the failure of VR glasses or compatibility problems between the program and the glasses? What happens in the event of a power failure?

However, there is a ‘gateway’ for tape recordings in the main hearing: The 1st Victims' Rights Act (OpferRRG) enables individual hearings to be recorded on audio media by order of the presiding judge in accordance with Section 273 (2) sentence 2 StPO, which does not release the court reporter from being present at the main hearing, but does relieve the latter. The aim is to avoid “renewed questioning of the witness [...] in the appeal instance”[24]. However, only refers to tape recordings and not audio-visual recordings. However, the encroachment on personal rights is much more serious in the case of video and audio recordings than in the case of mere audio recordings. For example, the witness's right to object to the release of a tape recording to those authorized to inspect the files is expressly not applicable due to the reference to Section 58a (3) StPO, which is not included in Section 273 (2) sentence 3 StPO.

Irrespective of whether the legislator will demand a copy of the VR interrogation or not: Es the question of access to the file by the defence counsel pursuant to Section 147 StPO or the lawyer of the co-plaintiff (Sections 397a, 406e StPO) arises. The defence lawyer is generally entitled to hand over a complete copy of the file to the accused.[25] The regulations on the handover of audiovisual hearings provide for restrictions in this respect in Section 58a (2) sentence 3 6, (3) StPO: The witness questioned audiovisually has the right to object to the release of the video tape, which many witnesses make use of in practice; i n consequence, persons entitled to inspect the file then only have a right to inspect the written record of the video recording (a strong indication that a record is to be drawn up). Depending on the status of the proceedings, they can view the videotape itself at the offices of the public prosecutor's office or in court. For reasons of witness protection – and this technique is currently being discussed for interrogations from this perspective – nothing else should apply to VR interrogations: However, if there were no written transcript of the VR interrogation, the accused's rights of defence would be curtailed, the defence's right to inspect the files and the right to a fair trial guaranteed in Art. 6 ECHR, which manifests itself in the right of defence, among other things, would be restricted. [26] If there were a transcript of the interrogation, the question arises as to what is the subject of such a transcript and whether the accused's rights of defence would be restricted by omitting one aspect or another.

A further problem arises as to what happens to the VR recording at the end of the criminal proceedings, whether it can also be used in further (e.g. custody) proceedings. § Section 58a (2) stipulates that video tapes (not their transcription) of an audio-visual interrogation must be deleted if they are no longer required for the criminal proceedings. Any copies that the

[24] *ibid.*, § 273, marginal no. 14a

[25] *ibid.*, § 147, marginal no. 20

[26] *ibid.*, § 147, marginal no. 4

persons entitled to inspect the files have received must be handed over to to the public prosecutor's office (Section 58a (2) sentence 5 StPO). Any use for other proceedings requires the consent of the witness in accordance with Section 58a (2) sentence 6 StPO.

6. Research findings on the language aspect

The use of AI-supported integrated automatic transcription and translation services could be a potentially relevant technical function in the future, enabling the (at least partially) automated creation of minutes from what is spoken in virtual space, which can be accessed in different languages. This can be particularly helpful for gaining knowledge and procedural efficiency in cases with transnational elements.

7. research result on the aspect of costs

The fact that the use of VR technology would reduce costs is a frequently circulated claim that cannot be recognized as possibly true, or only to a very limited extent. On the one hand, physical rooms and law enforcement personnel cannot be replaced; on the other hand, they are supplemented by virtual rooms and specialists. In addition, there is a not insignificant additional expense – rather insignificant for the development of the VR environment – for the underlying IT infrastructure on site, its maintenance and further development, for locally bound and/or cloud-based storage capacities and (not only data) security, technical personnel and training. Once introduced, the question also arises as to whether the use of VR technology in witness hearings is at the discretion of the judge and whether, possibly for reasons of witness protection, discretion can be reduced to zero. Does this mean that the state is obliged to provide the courts with the necessary equipment? At any rate, the judiciary currently lacks the appropriate hardware and software. Previous attempts to use VR technology to reconstruct crime scenes, for example, have been made with the help of the police. In addition to the devices, it would be necessary for the main hearing to run smoothly to train and employ the appropriate specialist staff to operate the technology.[27] In practical implementation, the “lack of standardization and incompatibility of different VR glasses” must also be taken into account; practice has shown that 3D images are not recognized by all VR glasses without problems, as there is a lack of interfaces between specialist software and VR glasses.[28] Ultimately, the question arises as to who bears the costs for the use of VR technology. According to Section 465 StPO, the convicted person must generally bear the costs of the proceedings. Court costs are calculated in accordance with Section 19 (2) GKG i V m Sections 4 et seq. KostVfG in the cost assessment procedure. Do the expenses for a possibly cost-intensive VR technology, which is ‘nice to have’ but not absolutely necessary,

[27] Irskens/Heetkamp, Digitalization of the taking of evidence - new technologies in practice, RDi 2023, 382, 387

[28] *ibid.*, 388

also count towards the costs to be imposed on the convicted person – or is this, analogous to Art. 6 para. 3 e ECHR, not permissible?

8. Research result on the aspect of data protection

Corresponding deletions under data protection law (e.g. Section 489 StPO) must also be observed in the VR environment; In particular, the extent to which a provision modelled on Section 58a (2) i V m Section 101 (8) of the Code of Criminal Procedure for the deletion of recordings could be considered should be discussed.

Video tapes that were made as part of a video interrogation in the course of preliminary proceedings in accordance with Section 58a of the Code of Criminal Procedure must be deleted immediately if they are no longer required for criminal prosecution or a possible judicial review. Retention would be e.g. necessary if further charges are to be expected, retrial is considered or accomplices are fugitives. The deletion must be recorded. Only the videotape is deleted, not its transcript.[29] The background to this is the protection of the personality rights of the witness, whose personal rights are far more strongly encroached upon with a video recording than with mere written documentation or tape recording. If the result of the use of VR technology (and thus the recording) is that a completely virtual event with avatars is recorded, i.e. no natural person, there should be no difference to a written record for reasons of privacy protection. However, if the witness himself with the VR glasses on his head were to be recorded audio-visually, the situation is comparable to the video recording of an interrogation from the point of view of the protection of personality. This recording is an essential part of the proceedings, which is not easy to remove, as the evidential value relates not only to the statement, but also to accompanying circumstances. Here it is necessary to further in-depth discussion against the background of data protection aspects.

9. Research result: hardware

Depending on your physical constitution, wearing VR glasses over a longer period of time can lead to physical complaints such as headaches; this was the result of the research team's self-experiment. In particular, the glasses are likely to be too heavy for children to wear over a longer period of time. Against this background, it is to be feared that the interrogator will respond quickly in order to get rid of the VR glasses as quickly as possible. Here the technology could be improved and lighter glasses could be designed.

10 Research result: Psychosocial trial support and the support system

Pursuant to Section 406g StPO, injured parties can make use of the assistance of a psychosocial court counsellor in criminal proceedings. Psychosocial trial support is “a special form of non-

[29] MüKoStPO/Maier, 2nd ed. 2023, StPO § 58a para. 94-96

10. Research result: Psychosocial trial support and the support system

Pursuant to Section 406g StPO, injured parties can make use of the assistance of a psychosocial court counsellor in criminal proceedings. Psychosocial trial support is “a special form of non-legal support in criminal proceedings for particularly vulnerable injured parties before, during and after the main trial” (Section 2 (1) sentence 1 PsychPbG.) By providing information and qualified support, is intended to reduce the burden on the injured party during criminal proceedings and thus avoid re-traumatization (Section 2 (1) sentence 2 PsychPbG). The protection of particularly vulnerable witnesses is also the focus of the use of VR technology. Will a psychosocial trial counsellor become superfluous because VR technology now takes over the protection of the witness? Probably not, but rather the role of the psychosocial trial counsellor is likely to change: The task would be to explain the VR technology to the witness and to support them in using it; for example, would also have to make sure that a break is taken if the witness gets a headache from wearing the VR glasses. The training and further education of psychosocial trial counsellors should therefore also take VR technology into account in the future. In addition, it should be asked whether the accused also need appropriate support and whether the role of psychosocial trial counsellors should be expanded accordingly; after all, the accused are also confronted with this new technology and have a need for information that could be satisfied by trial counselling.

On the other hand, one could think of a 'psych avatar' taking over the role of psychosocial trial support, which – controlled by AI – would assume the role of psychosocial support for the witness avatar; material enough for a further research project.

Conclusions

The use of immersive technology has the potential – even if it and the underlying infrastructure and legal framework still need to be further developed – to usefully supplement the current criminal prosecution system. For reasons of procedural guarantees that are non-negotiable under the rule of law, such technologies should be explicitly understood as an additional option for shaping proceedings – irrespective of the procedural phase. It is therefore a possible arrangement that can be used, for example, with the consent of all parties or for reasons of the judicially determined special worthiness of protection of individual actors. However, if cognitive considerations are to be classified as overriding, these must take precedence. (We would have to talk about this again, as my comments are intended to make it possible to change the legal framework, but you come to the conclusion that VR technology is just an ad-on. So where should the journey take us?)

From the perspective of EU law or from the perspective of the EU, facilitating and offering training and support in institutional-infrastructure matters within the meaning of Article 81 (2) TFEU (judicial cooperation in civil matters), 82 (1) and (2) TFEU (judicial cooperation in criminal matters) and 87 (2) TFEU (police cooperation) would not only be possible, but an explicit mandate.

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