



# PTB Guidelines for Hybrid Events

Suzana Lange, Anke Merziger



	Background	5
1.	Special challenges of hybrid events	6
	1.1. Characteristics of hybrid events	6
	1.2. Variants of hybrid events	6
2.	Tips for drawing up the content and concept of a hybrid event	8
	2.1. Alternative options and aims	8
	2.2. Practical considerations	9
	2.3. Agenda of the event	10
	2.4. Invitations	10
	2.5. Welcoming and closing words	11
	2.6. Interacting with others and discussions	12
	2.7. Lectures	12
	2.8. Breakout groups	13
	2.9. Breaks	13
3.	Roles and involvement of the participants	14
	3.1. Remote participants	14
	3.2. On-site participants	14
	3.3. Lecturers	15
	3.4. Moderators	16
	3.5. Support	16
	3.6. Interpreters	17
4.	Tips for logistics and tools	18
	4.1. Rooms	18
	4.2. Microphones and loudspeakers	18
	4.3. Cameras and screens	19
	Feedback and suggestions	20
	Imprint	22

On behalf of



Federal Ministry  
for Economic Cooperation  
and Development

On behalf of the Federal Government of Germany, the Physikalisch-Technische Bundesanstalt promotes the improvement of the framework conditions for economic, social and environmentally friendly action and thus supports the development of quality infrastructure.



# Background

These guidelines were drawn up in the summer of 2022 by PTB's *Capacity Development* working team. The aim of these guidelines is to give practical tips for organizing and implementing hybrid events for the projects of PTB's *International Cooperation Group*.

Many different variants of hybrid events have been carried out in PTB's international project, especially since 2022. These variants are described in Section 1. In these guidelines, a variant that is especially challenging, i.e. a one-off (big) event with two kinds of participants (on-site participants and remote participants) and with online lecturers and online interpreters will be dealt with. The focus of these guidelines is on how to draw up the content and concept for an event such as the one described in Section 2. In the case of hybrid events, the roles of the participants, of the lecturers and of any supporting staff alter. This will be described in Section 3. Section 4 provides tips for answering technical and logistical questions and includes helpful literature on how to carry out hybrid events.

These guidelines were drawn up in the following steps:

- In May 2022, an online survey was carried out. In this survey, PTB employees from PTB's *International Cooperation Group* were asked about the practical experience they had already gathered in organizing events.
- In June 2022, the authors of this publication and other members of PTB's *Capacity Development* working team (Heike Koch, Gudrun Becker and Katharina Telfser) added tips which were based on their own experience and research.
- In July 2022, these guidelines were supplemented with contributions from Julia Junge (Methodenmut) and with interviews which had been conducted with the experts Sarah Rüffler (from GIZ), Matthias Münz (from Deutsche Welle), Julia Hoffmann (from Socius) and Jens Jaspers (freelance interpreter).

We would like to thank all of them very much for their contributions, and we hope that the variety of tips received from them will mean that people working in the *International Cooperation Group* will find valuable information on how to carry out hybrid events successfully. New tips for various online formats (e.g. team meetings, conferences, etc.) are continuously being made available to the project partners and to the interested public via PTB's *Capacity Development Online Navigator* (see the footnotes in this publication). There are also tips which have already been published on the *Capacity Development Online Navigator* website and are not only relevant for online events but also for hybrid events. Links to these tips can be found in these guidelines as footnotes.



# 1. Special Challenges of Hybrid Events

## 1.1. Characteristics of hybrid events

Hybrid events are events carried out at a special site, but with some of the participants and the lecturers attending online via computers<sup>1</sup>. For various reasons, this format is becoming more and more popular. There are often logistical, financial, health-related and climate-friendly reasons for an event to be carried out in hybrid form. At the same time, it is possible for people to meet on site (e.g. if they are at one place anyway or if they prefer to communicate personally with each other).

Hybrid events offer a high degree of flexibility: In a hybrid event, more (and other) people can attend than would be possible in an event that is just being carried out on site<sup>2</sup>. Also, the chances of attracting lecturers from abroad to such an event are often better, as they do not have to travel to the location itself. On the other hand, preparing and carrying out a hybrid event is more difficult and complex than an event that is exclusively carried out online or exclusively on site. In particular, professional technical equipment must be available to make sure that the communication between the remote participants and the on-site participants runs smoothly. The content of the event should be imparted in such a way that the participants of both formats (whether on site or remote) feel integrated into the event and into the group of participants.

Even if the organizers have already gained some experience from events carried out exclusively online or exclusively on site, or if they have some knowledge of the elements of such events, and even if this may be of help when organizing hybrid events, a hybrid event must be seen as a format of its own. This means that a hybrid

event has specific needs that have to be taken into account. On the one hand, the aim of a successful hybrid event is to integrate the remote participants and, at the same time, to avoid videoconference fatigue. On the other hand, on-site participants should not be kept waiting due to technical problems or due to problems with the interface (i.e. problems which might arise if the two formats – remote or on site – do not match). Furthermore, remote participants should not have the feeling that by taking part in the event from far away only, they are confined in their scope of action. In the best case, such an event creates a feeling of being close to the other participants, no matter whether people are attending on site or are sitting far away in front of their computers.

## 1.2. Variants of hybrid events

There are different possibilities for carrying out hybrid events, each one having specific challenges:

- The lecturers are connected remotely.
- The moderator is connected remotely.
- The participants are connected remotely and either take part separately in front of their computers or as a whole group in front of one computer.

When **lecturers are connected remotely** to give a presentation but are not involved any further in the ongoing event, it is important to inform them in advance of the fact that the event will be carried out in a hybrid form. This will mean that they can prepare themselves for this format in good time (technically regarded, for example, by getting a camera ready, by ensuring good sound quality, or by using – ideally – two screens; with regard to methods of presentation: by using, for example, short speech units or adapted visualization). In the ideal case, it is not only possible for the participants to follow the presentation acoustically, but also to see the lecturer(s). In turn, the lecturer should also be able to see the participants.

<sup>1</sup> In these guidelines, the two different types of participants will be referred to as *on-site participants* and *remote participants*

<sup>2</sup> See: Learning experience *Leave no one behind*. <https://www.cdo.ptb.de/facilitation-leave-no-one-behind>



A **moderator who is connected remotely** in order to moderate the event online, i.e. from far away, cannot be recommended. It is important for moderators to be present on site so that they can sense the mood and the atmosphere in the conference room itself and guide the event. What can be recommended, however, is having two moderators, with one main moderator being on site and one co-moderator supporting the main moderator (either remotely or by being on site as well). The task of the co-moderator is to make sure that the contributions of the remote participants will be taken into account as well. In addition, technical support staff are required as it is not always possible for the moderators or the participants to render such support themselves.

These guidelines deal with the variant of a hybrid event in which the **participants take part both in person as well as remotely**. In addition, Section 3, which deals with the role of the participants, provides information that might

be of help if lecturers or moderators are exclusively being connected remotely. In many of PTB's events or in events with PTB involvement, the participants speak different languages<sup>3</sup>. This is the reason why these guidelines also deal with the role of interpreters.

The hybrid form is especially difficult when it comes to events that take place only once or which are being carried out for the first time. As soon as hybrid events are carried out regularly or as soon as the organizers have gained some experience with such events over a longer period of time, handling the technical equipment becomes easier and tasks can be distributed between all of those involved.

<sup>3</sup> See: Learning experience *Language*. <https://www.cdo.ptb.de/preparation-language>



## 2. Tips for Drawing up the Content and Concept of a Hybrid Event

### 2.1. Alternative options and aims

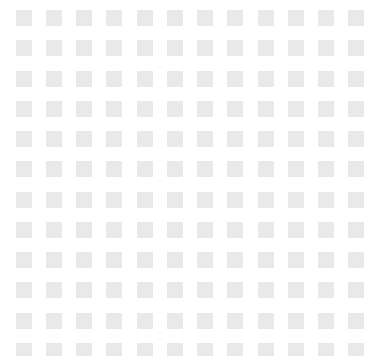
In one of the first steps, the organizers should clarify whether the event really has to be carried out in hybrid form and what advantages this would have in each individual case. For example, instead of carrying out a training event in hybrid form, which might run over a longer period of time, it might be possible to organize a training session where some elements are offered exclusively online and some elements are offered exclusively on site. Or instead of a hybrid event, it might also be possible to carry out parts of the event at different locations at different times if it is not necessary for all the participants to attend at the same time.

When planning a hybrid event, it should be considered whether all parts of the event really have to be offered in hybrid form. One option would be to carry out **individual parts of the event** exclusively on site or exclusively remote, or to offer both of these formats in parallel, combined with parts that are carried out jointly in hybrid form.

The way in which the hybrid event should be set up depends on the aims that are to be achieved. These aims should be clearly defined before the event is planned. When planning an event in hybrid form, it is especially important to decide whether remote participants should be able to participate actively in all parts of the event – for example, by contributing to discussions and to brainstorming processes or by participating in break-out groups – and whether networking between the two groups should be possible or not. It is also important to check whether the methods, tools and visualizations used are well received by the two groups and whether they offer enough opportunities for both groups to contribute actively to the event. If not, they should be revised and adapted. It should be kept in mind that there are two groups of persons who are participating, both of them having different needs and different ways of taking part in the event.

Before the event is planned, the **aims** to be achieved should be determined as these are decisive for choosing the right method and for its technical implementation:

- What are the advantages of the hybrid format compared to an event that is exclusively carried out online, an event that is exclusively carried out on site or an event that is carried out in the form of two separate events (one on site and one remote)?
- Should all parts of the event be carried out in hybrid form or does it make sense to split the groups for certain work units?
- What are the aims of the event? Is the aim merely a transfer of knowledge? Or is an exchange of information between participants wanted? Or is the aim to work jointly on certain subjects and topics?
- What knowledge should be conveyed, and what competences should be acquired?
- Is socializing important (i.e. should the participants become acquainted with each other? Or should they get to know each other better? Or should perhaps the aim be to promote fun while working together?)
- What should the on-site participants experience on location and how should it be for the remote participants?
- Do the participants on site differ from the remote participants? If so, what does this mean for drawing up a concept for the event?





## 2.2. Practical considerations

Any questions about which **technical and personal resources** are available should be clarified along with questions about **putting the event into practice**:

- Who takes on which roles and which responsibilities?
- Who is seated where?
- Which technical equipment is available in which room? What is required in addition to that?
- How can the technical equipment be supplemented with simple devices (e.g. additional smartphones, headsets, mobile microphones or tablets)?
- Which programs and apps (e.g. TedMe or Concept-board) are available and can be used apart from the videoconference tool?
- Is professional support from outside required for the technical equipment?

It is useful to draw a sketch of the room and to note down everything concerning the use and positioning of the technical equipment, the seating arrangement and the communication channels. For example, arrows can indicate who is talking to whom or who is seen by whom. In this way, technical problems and problems arising from the way the hybrid event is set up can be detected and resolved in advance. Further advice can be found in Section 3, which deals with the technical challenges of hybrid events.

### Example of a room sketch

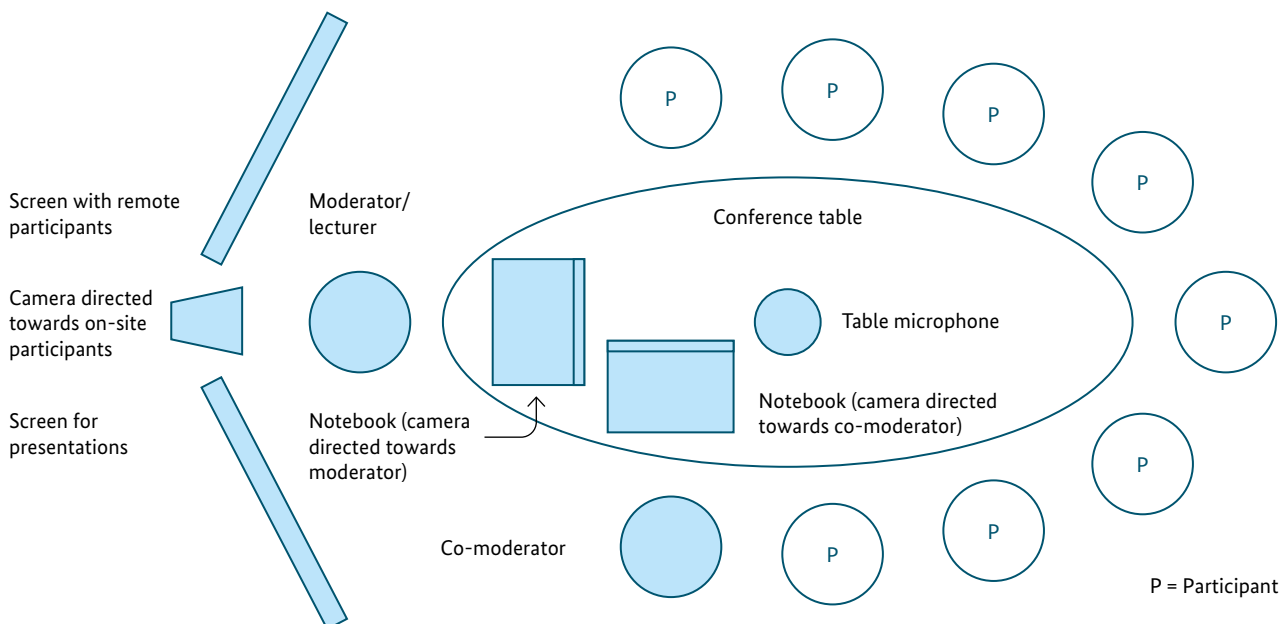


Figure: Example of a room sketch (visualized by Heike Koch, Cookie Consult)

## 2.3. Agenda of the event

The agenda of the event should be adapted to the hybrid form of the event. It is especially important to keep the remote participants in mind and to plan fairly short work units<sup>4</sup> in order to avoid cognitive overload. An event that is wholly based on the rules and the schedule of an on-site event, offering – at the very most – an online stream for the remote participants, cannot be considered a successful example of a hybrid event.

- The agenda and the daily programme as well as the times when the participants can take part actively both in the work units and in the breaks, should be exactly planned. The participants should be clearly informed about all this in advance.
- A hybrid event should not take longer than six hours.
- It is recommended to plan shorter time units (of one hour at the most) and to allow for more breaks. In this way, the needs of the remote participants are given their due.
- If it is planned to connect on-site participants and remote participants with each other during the breaks to give them the opportunity to get to know each other, then further (*genuine*) breaks (i. e. times away from the screen and without the possibility of networking) should be planned in addition for all participants.
- If a group of participants splits up in order to take part in certain work units that run in parallel or in order to take part in individual programmes, then the topic of the joint work unit that follows after that should be attractive enough (for example, lectures held by interesting keynote speakers) for the participants to be motivated to return to the hybrid format.
- Any parts of the event which are carried out separately from the others can be filmed so that the other group of participants can watch that part later on. However, filming an event can have its negative sides (for example, the participants might be self-conscious), and this should therefore be well-considered<sup>5</sup>.

As an alternative, important results of the smaller groups could be shared in a subsequent plenum.

- Breaks can be used as an opportunity for participants who live in another time zone to join the event easily at a later point in time. It should be ensured that any new participants can follow what is happening without having difficulties even though they missed the beginning of the event.

## 2.4. Invitations

In order for the event to run smoothly, the participants should already be informed about the specific characteristics of the hybrid format when they receive their invitations.

- As is the case for online events, the agenda as well as practical information<sup>6</sup>, such as the link to the video-conference platform or an offer to carry out a technical check of the tools used (for example, a check of the videoconference platform or a check of the digital whiteboards) should be sent along with the invitation.
- Which thematic units will be accessible for on-site participants and/or remote participants should be clearly marked. Also, the participants should be told in which way they can – and should – contribute to the work unit. The participants should be informed of the fact that the event will take place in a setting that is still relatively new to all of them. This information is crucial in order to avoid frustration on both sides.
- If it is also planned to use online tools in the group of on-site participants (for example, online survey tools such as TedMe, or if an interpretation will be supplied via a separate videoconference channel), the participants should be asked to bring their own equipment for this, for example, a smartphone or headphones.

<sup>4</sup> See: *Online Conference*. <https://www.cdo.ptb.de/conference>

<sup>5</sup> See: *Learning experience Recording an online event*. <https://www.cdo.ptb.de/documentation-recording>

<sup>6</sup> See: *Learning experience Avoiding technical difficulties*. <https://www.cdo.ptb.de/preparation-avoiding-technical-difficulties>

## 2.5. Welcoming and closing words

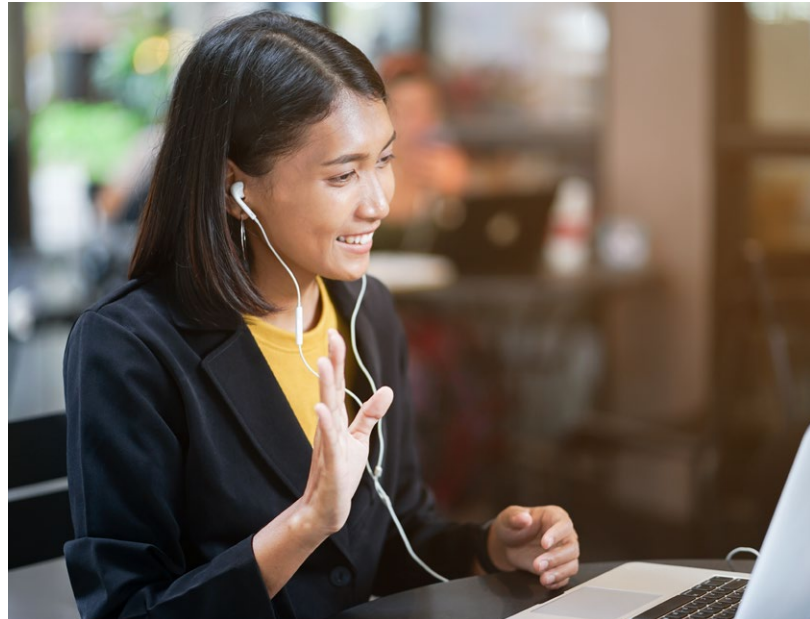
The beginning of the event should be used to introduce the participants to the joint **rules for working together in on-site and remote formats and to define those rules**<sup>7</sup>.

- What roles are there and what is to be expected from the respective person? For example, how do I contact the co-moderator if I want to contribute to the work unit? Or how do I contact the technical support staff if I have problems with the connection?
- Where and how do people have to stand and speak in the room in order to be heard and seen?
- How and where are remote participants visible for on-site participants?
- How can people (remote and on site) request to speak?
- Is there a joint break and, if so, how is it organized?
- What will be documented? For example, will everything be filmed and, if so, have all the participants agreed to that? Will only the presentations be filmed or the Q&A sessions afterwards as well?
- How will the documentation be made available and who will it be provided to?

The use of the technical equipment and the tools should be explained and, if necessary, tested.

If required, **support systems** which are specially adapted to the needs of a group can be introduced, for example, *tandems* made up of remote participants and on-site participants (*buddy system*) who remain in contact during the event and make sure that the other person can follow the event well and can be heard.

Remote participants must not be forgotten, neither when participants are welcomed nor when saying goodbye. Both of these moments are a good opportunity for **bringing both groups together**:



© iStock

- Short online polls (e.g. what is the mood/atmosphere like, what do the participants expect from the event) with external tools (e.g. TedMe)<sup>8</sup> that also enable the on-site participants to take part via smartphone, are well suited to begin the event.
- In smaller groups, it is possible for the participants to introduce themselves, for example, remote participants and on-site participants in turn. All participants should be able to hear and see each other well.
- Saying goodbye can also be used as a bonding moment. This also includes saving the online chats, the pictures, etc.

While the participants of online events often **say goodbye** in an abrupt manner by just logging out of an event (after they have perhaps announced in the chat that they are going to leave), on-site participants often stay in the room for a couple of minutes and start informal conversations. If the organizer wants the participants to stay together for some time after the closing words and to spend some informal time together at the end, this should explicitly be announced on the agenda. There should still be a moderator for this final period of time.

<sup>7</sup> See: Learning experience *Welcoming participants*. <https://www.cdo.ptb.de/facilitation-welcome-of-participants>

<sup>8</sup> See: Learning experience *Making use of polls in online events*. <https://www.cdo.ptb.de/facilitation-using-polls>

## 2.6. Interacting with others and discussions

The biggest challenge of hybrid events is integrating the remote participants and keeping them involved (if this is one of the aims of the event). If the participants actively take part in an event<sup>9</sup>, this ensures that all of them become visible. This, in turn, increases the attentiveness of the participants.

- When preparing the event, how and when remote participants can request to speak should be planned. These rules should be communicated at the beginning of the event.
- Remote participants can be integrated by means of tools which have established themselves in online events, for example, polls and surveys, emoji reactions or virtual gestures (thumbs up, applause). For this purpose, it is important for the on-site participants to see the remote participants and their contributions on a (second) screen or on their smartphones.
- Requests to speak can be issued in written form in the chat or via a hand signal. A proven practice is that a co-moderator (see Section 1) views the chat messages and brings them up for discussion when the subject matter fits the topic that is just being discussed. This may be done at a fixed point in time or whenever it seems suitable. Also, requests to speak that are communicated by a participant via a hand signal are seen by the co-moderator, who then gives the floor to that participant. In this way, it is ensured that the remote participants are integrated into the discussion rounds.
- Laying down fixed times for Q&A or panel discussions makes it easier for the participants to understand the structure of the event and to know when there will be time for questions and discussions. The moderator should make sure that the remote participants are integrated into the discussion rounds and that the contributions from on-site participants are transmitted to the remote participants.
- Using digital whiteboards<sup>10</sup> or digital tools (such as TedMe) is possible if the on-site participants are pro-

vided with individual devices which give them access to such whiteboards and tools, or if the moderator notes down the contributions of participants on the digital whiteboard (similar to a flip chart) on site. While the link can, however, be easily shared in the chat by the remote participants, this is a little more complicated for on-site participants and should either be communicated as early as in the invitation or should be facilitated by means of a QR code.

- Non-virtual methods are also possible, provided that the contributions of the remote participants or their voices are transmitted in a non-virtual way, for example, if their contributions are written down on a slip of paper and pinned to the non-virtual whiteboard.

## 2.7. Lectures

Lecturers<sup>11</sup> must be informed beforehand of the hybrid character of the event and be made aware of the specific challenges of such a format. Apart from that, lecturers and organizers should jointly agree in how far the participants should be able to become active during the lecture.

- Questions and answers arriving in the chatroom may be passed on to the lecturer by the moderator.
- The presentations of the lecturers are transmitted online and are thus accessible for both groups of participants. What should be avoided, however, is that the view of the participants is interrupted when changing to the presentation mode. One solution would be to use two screens.
- If lecturers are on site and use further means of visualization, for example a flip chart, then a special camera is required for this. Alternatively, people have to send photos to the remote participants via a mobile messenger. If a camera is to be used for transmission, it should be tested beforehand. This is to make sure that the recording is clearly visible with the technical equipment used by the remote participants (who might just participate via a mobile phone or tablet).

<sup>9</sup> See: Learning experience *Enhance communication and participation*. <https://www.cdo.ptb.de/facilitation-enhance-communication-and-participation>

<sup>10</sup> See: Learning experience *Use of technical applications*. <https://www.cdo.ptb.de/preparation-use-of-virtual-applications>

<sup>11</sup> See: Learning experience *Online lectures*. <https://www.cdo.ptb.de/online-lecture>

## 2.8. Breakout groups

Depending on the set-up and aims of the event, it might be useful to bring on-site participants and remote participants together in breakout groups<sup>12</sup>. But even if the integration of the remote participants is achieved in this way, this does not necessarily justify the effort. Using breakout groups should therefore be decided on in advance according to individual criteria (e.g. the type of participants, the need for networking, the subject matter, the aims of the event and whether it is necessary to exchange opinions).

Breakout rooms can be set up for mixed groups. The remote participants can take part in the breakout meeting via a laptop, tablet or phone. A tablet stand can be used to set up the device at the right height (ideally at eye level). If possible, the screens and technical equipment needed for breakout rooms (intended for breakout groups) can be prepared in advance. One person in the breakout group should be responsible for ensuring smooth communication (audibility, participation, visualization, etc.).

Separate groups are possible, too. In that case, the results of the on-site groups and of the remote groups can be summarized and exchanged. To this end, all remote participants will usually be sent into one breakout room, or the room will be muted. It should be noted that remote groups of six or more people need a moderator (for example, one person from the group).

## 2.9. Breaks

It should be decided in advance whether remote participants should be given the opportunity for an informal exchange of information during breaks. This way, some things can be prepared in advance (provision of technical equipment and rooms; if necessary, provision of a moderator also for the time of the breaks). In addition, the participants can already be informed beforehand about the

way the breaks will be organized and which opportunities will be offered for an informal exchange of information. During hybrid events, the breaks are especially challenging: The on-site participants might all talk to each other simultaneously, and the remote participants cannot usually follow the conversations because the voices are unclear. Contributions from remote participants might not be heard in this situation. However, with appropriate planning, a hybrid break can work as well.

- A simultaneous break of on-site participants and remote participants is possible if the appropriate technical equipment (e.g. laptops/tablets) is available. These break rooms can be equipped and work in a similar way to the breakout rooms. Providing a moderator for the time of the breaks can be recommended for groups of four or more people.
- Another method for integrating remote participants and on-site participants is *Walk'n'Talk* (phoning while taking a walk outside), but this has to be planned in addition to the actual breaks.
- If no breaks are planned to be shared by both remote participants and on-site participants, there is the possibility of setting up appropriate virtual rooms (e.g. by using external tools with a focus on getting people together<sup>13</sup>, like wonder.me). Such tools offer the opportunity for remote participants to get together for a purely online exchange of information in an informal setting.
- If, on the contrary, breaks are planned to be shared by both remote participants and on-site participants, then genuine breaks must be scheduled in addition during which the participants can actually leave their screens. During such *genuine breaks from the screen*, a co-moderator should still be there as a contact person for the remote participants. This person is responsible, for example, for informing the remote participants about delays and for answering questions. The sound from the conference room on site can be muted.

<sup>12</sup> See: Learning experience *Breakout groups*. <https://www.cdo.ptb.de/facilitation-breakout-groups>

<sup>13</sup> See: Learning experience *MeetUp*. <https://www.cdo.ptb.de/meetup>



## 3. Roles and Involvement of the Participants

### 3.1. Remote participants

An important requirement for planning a hybrid event is to take the needs of the remote participants into account in the same way as the needs of the on-site participants.

- It is recommended to check the technical equipment in the conference room on site before the event starts (it may be sufficient to carry out the check with only one or two participants before the beginning of the event).
- A separate introduction held for the remote participants and imparting information on the agenda, on breaks, on the possible use of cameras and on possibilities for participants to become active themselves (via hand signals, chats, etc.) will help remote participants to understand the structure of the event more easily.
- It should be made sure that the remote participants can see and hear the lecturers, the presentations and the on-site participants in good quality. This helps to avoid videoconference fatigue, which may occur more quickly when someone has to concentrate much more on the content because the sound quality is bad or because there is disturbing noise in the background.
- During presentations, it should be possible to see the person that is currently speaking. The picture-in-picture function makes it possible to show the presentation and the lecturers simultaneously.
- The participants should be asked beforehand (in the invitation to the event) whether they want to switch their cameras on or not. Using a camera is especially recommended when the remote participants are expected to make statements. Many tools have features allowing the person who is currently speaking to be automatically displayed in a bigger format (*speaker view*). In this way, a participant becomes more visible, especially in a hybrid event.

- The participants should also be informed of the fact that their user names (first name and surname as well as their organization) should be chosen in a way that allows a quick overview of all remote participants.
- The lecturers and the moderators should not always speak to the participants who are present on site. If appropriate, they can also speak into the camera to address the remote participants. A view of the participants on site can be shown in the background.
- One disadvantage of this is that the participants on site might only see the back or the side of the person who is currently speaking. This, however, might be appropriate if, for a certain session of the event, the comprehensibility for remote participants takes priority.

### 3.2. On-site participants

It is important for on-site participants to experience as few restrictions as possible in the hybrid event format so that they can see that the interaction between remote participants and on-site participants also has its advantages. Brief instructions on how to use the technical equipment and an explanation of what is expected from the hybrid format and from the possibility of interaction provide guidance and ensure that the event will run smoothly.

- It should be made sure that the remote participants can see and hear everything well, for example by using a good loudspeaker (a loudspeaker that is integrated in a laptop is often not sufficient) and a second (large-screen) monitor.
- The seating should be arranged in such a way that the possibility for the on-site participants to interact with each other is given, but at the same time, the arrangement of the chairs should enable a good view of the presentations and of the remote participants.

- Even though it is often not possible to get an overall view of the conference room on site (especially when working with smartphones or second computers/laptops for additional camera perspectives), it is at least helpful for remote participants if they can see some of the on-site participants. The on-site participants should take their seats accordingly and should be aware of the fact that the event will be transmitted via camera.
- It may be helpful to use a second mobile camera which could bring individual persons into focus, in addition to the overall view of the other camera.
- In the case of online presentations, the technical equipment should be checked in advance to make sure that the sound, video, and picture-in-picture transmission work.
- If the lecturers cannot see the on-site participants properly, they need a *translation* from the conference room on site to get an idea of the mood and atmosphere, the profile, the attentiveness, etc. of the participants. This will allow them to adapt their lecture to these things. It is the task of the moderator on site to communicate these things to the lecturers.
- It is important for the lecturers to include virtual interaction in their lectures, for example by TedMe polling (asking the participants what they already know about the subject matter or what their special field of interest is).
- If the videoconference program does not offer any possibility of showing the lecturer, the participants and the moderators at the same time, it should be considered whether a digital visualization is really necessary. But especially when interpreters are needed, it is of the utmost importance that they can see the lecturer so that they can understand the subject matter with the help of the facial expressions of the lecturer.
- The quality of the sound and image transmission is worse in a room with many participants (in comparison with transmissions to just one other computer with only one person in front of it). This means that suitable equipment and the right positioning of the camera and of the microphone are even more important than in a meeting that is exclusively carried out online. Avoiding background noise near the lecturer is also important.

### 3.3. Lecturers

The lecturers should be informed in advance about the format of the event and about its specific requirements (e.g. the presentations should be shorter than in other formats, the lecturers should respond to questions in the chat).

- The lecturers should be able to see and hear both the remote and the on-site participants.
- If desired, the lecturers should be able to see the chat messages.
- If the lecturers are on site, it is a special challenge for them not to forget the remote participants. The presentations should be shorter than in other formats and interactive elements could be used (e.g. chat enquiries, polls, asking the participants to give their opinion via hand signals). All this can contribute to integrating the remote participants. Also, the lecturers should try to not only look at the participants on site, but also to speak towards the camera so as to integrate the remote participants.
- Presentations should be directly transmitted by screen sharing via the videoconference tool, not by placing a camera in front of a projector screen. If this is done anyway, it should be made sure that the view to the participants and between them is not impeded.

If the **lecturers are connected remotely**, they should prepare themselves for the hybrid event in a similar way to an event that is exclusively carried out online. They should use even better technical equipment and be prepared to interact with the participants on site.



### 3.4. Moderators

The moderator supports the lecturers and ensures that all participants get the opportunity to contribute actively to a session. Ideally, hybrid events are carried out with two moderators who work closely together.

The **main moderator (i.e. the on-site moderator)** is in charge of the conference room on site.

- The tasks of the moderator are the classical ones: chairing the event, leading discussions, visualization
- The moderator is the point of contact for the lecturers and for the participants on site.
- The moderator takes care that the participants on site do not all speak at the same time. This would lead to remote participants being unable to understand what is being communicated on site. The person speaking should have a microphone and those who do not have a microphone, should not speak.
- High-quality filming of the on-site moderator with the camera in the conference room is very important. This ensures that contact is kept with remote lecturers or online interpreters.
- If lecturers – be it lecturers on site or lecturers who are connected remotely – do not have much experience with the interactive methods used in online events or hybrid events, the moderator may suggest and support the use of participative elements such as survey and polling tools, etc.
- The **co-moderator (i.e. the online moderator)** is responsible for the virtual room. If the co-moderator is also on site, this has proven to be useful as such a co-moderator acts as an intermediary between the remote participants and the participants on site. The tasks of a co-moderator are to make sure that the technical equipment works (i.e. to ensure good sound and video quality), to advise the organizers, lecturers and participants if they have problems with their equipment, to install, connect and operate online tools (such as whiteboards), to play videos, and to set up group rooms.
- One of the co-moderator's essential tasks is to integrate the remote participants in the event by paying attention to hand signals and to chat messages. The team of moderators should decide in advance in which way contributions from remote participants

should be transmitted to the participants in the conference room on site.

- In addition, the co-moderator gives the participants an overview of the event and keeps them informed about what is going on in the conference room on site (the co-moderator informs them, for example, if the agenda is changed unexpectedly or if the time for breaks has been extended) and vice versa.
- The co-moderator is the contact person for the lecturers who are connected to the event remotely. The co-moderator also starts the presentations, if required, and provides guidance on what is going on in the conference room on site.

### 3.5. Support

For larger events, it might be useful to employ **(external) technical support staff** on site.

- The technical support staff on site take care of the technical equipment there. They also ensure that the microphones and cameras work properly and are in charge of additional electronic devices (laptops, tablets, smartphones) that are to be used during the event.
- In the case of larger events, it makes sense to divide the tasks of the co-moderator and of the support staff for online equipment. In that case, the support staff for online equipment will then exclusively be in charge of the technical aspects. The support staff open the virtual room for the remote participants, explain the conference tools, render support in case of technical problems, set up breakout rooms and can inform the people in the conference room on site if transmission problems arise.
- It is possible to entrust tasks which are usually taken on by technical support staff to participants. This is especially suitable for events within teams or if a group is already known to the organizer of the event.

**It is possible to use additional means of support to** enhance the connections between remote participants and on-site participants.

- A photographer or a camera operator may take pictures and close-up views of the conference room on site and make them available to the remote participants.
- A social media manager as well as participants at the event may comment on the proceedings via tools like Twitter.
- There are further solutions which are tailored to the individual needs of a group of participants (e.g. the above-mentioned buddy system which consists of tandems made up of remote participants and on-site participants).

- If participants are to be split into breakout groups, it should be considered whether interpretation is actually necessary for these groups. Other considerations are whether interpreting is possible with the technical equipment available and whether interpreting can be afforded if several interpreters are needed for this.
- When online tools are used (e.g. tools such as TedMe), the texts should, if possible, be translated in advance, or a sufficient amount of time should be allowed to interpret the contributions.

All people involved have to get used to the hybrid event format first of all, and they also have to develop certain **routines**. To this end, changing their roles might be helpful (e.g. changing from the moderator on site to the remote co-moderator or to technical support staff). This will give those involved a better understanding of how the different roles interact.

### 3.6. Interpreters

If it becomes necessary to employ interpreters who do not work on site but interpret online, organizing a hybrid event becomes increasingly difficult and complex.

- It must be clarified beforehand whether the video-conference system offers the possibility to switch to other languages in parallel (as, for example, Zoom does) or whether the participants only have access to a channel for a second language via a separate device such as a smartphone with headphones.
- The presentation mode and the interpreter's voice should not impede the direct contact of the participants with the lecturer. If this is the case, consecutive interpreting might cause less loss of information than simultaneous interpreting.
- For the interpreters to understand the contributions well enough, the moderator has to make sure that the contributions are always spoken into a microphone in the order scheduled on the agenda and that background noise is avoided. Room microphones are often not suitable for this purpose.
- In the Q&A sessions, it is recommended to either collect the questions and submit them to the lecturer during a break with the help of the interpreters or to transmit them to the chat and to have them translated there.



## 4. Tips for Logistics and Tools

When preparing a hybrid event, several special technical characteristics need to be taken into account because the technical effort is higher than for events that are exclusively carried out on site or exclusively online. The technical equipment needed generally depends on the type and size of the event.

### 4.1. Rooms

The room equipment needed at the location of a hybrid event is the same as for events that take place on site, combined with additional requirements for the technical equipment and the connectivity of that equipment.

- The seating for the participants on site has to be positioned in such a way that they can see each other well and can communicate with each other. At the same time, it must be possible for them to also watch the online contributions and to see the remote participants (see the room sketch above as an example).
- If the groups are relatively small, chairs – or, instead of the chairs – screens could be put up to represent the remote participants in a symbolic way.
- In addition to the requirements placed on an event that is carried out on site, the location must have a good and stable internet connection. Also, the equipment that is required to transmit the sound and the image properly (see below) should be available. If the internet connection is too weak, special consideration should be given to factors which could overload the internet connection (such as breakout groups which all meet at the same time in videoconferences or the use of energy-intensive tools). Such factors should either be avoided altogether or you should consider whether these factors are really necessary.
- For breakout groups in hybrid events, suitable locations or rooms must be made available (in the same way as for events that are carried out on site). If the breakout groups are mixed groups consisting of remote participants and on-site participants, a sufficient number of laptops, cameras, etc. have to be provided for each group.

### 4.2. Microphones and loudspeakers

Audio transmission is especially important to ensure that the participants from both groups understand each other without any effort. Bad acoustics and repetitions of what has been said can quickly have a negative impact on the participants' mood and work attitude. The organizer should explain to the participants on site in which way audio feedback can be avoided when several devices are connected to a video conference. A small mixing console might be helpful for several input devices.

- For small events with up to 12 participants, using a table microphone with an integrated loudspeaker and microphone is recommended. When it is positioned centrally in the room, it captures the contributions of the on-site participants and ensures that the remote participants, too, can understand everything and are, in turn, understood as well. The prerequisite for this is a *disciplined culture of communication*, i.e. only one person may speak at a time and there are no simultaneous conversations in the conference room on site.
- In the case of larger groups of 12 persons and more, it is better to use handheld microphones that can be passed around rather than table microphones. Using handheld microphones significantly improves the audio quality and reduces irritating background noise from the room (like rustling paper or a cup being put down). Systems like these are even less expensive and much more flexible than conference microphones, especially when social distancing due to Covid-19 has to be taken into account, or if no tables are used, etc.
- The microphones have to be tested. Audio feedback and echoes should be avoided. Audio feedback and echoes may occur, for example, when an additional laptop is used as a camera for the group.
- Explaining the microphone equipment briefly to the participants is useful to make sure that the participants on site can operate it (e.g. turn it on and off in case there are several microphones in the room).



- For the on-site participants to understand the remote participants in a sufficient manner, good loudspeakers are required especially for larger events. The loudspeakers which are integrated into laptops are only sufficient for a maximum of 15 persons in a room. In the case of a higher number of participants, external loudspeakers are required. Small powered speakers or a boombox are often sufficient for this purpose and may significantly increase the sound quality.

### 4.3. Cameras and screens

Ideally, there should be two cameras in the room. Depending on the size of the room and the event, using just the laptop cameras might be sufficient. In the case of larger events, a camera operator can be helpful (e.g. to bring the person who is currently speaking into focus). A room sketch (see above) can be of help to detect any possible problems beforehand and to resolve them in advance.

- A camera filming the lecturer ensures that the remote participants can see the presentation and the person who is currently speaking.
- A second camera filming the conference room on site ensures that the remote participants can see the on-site participants.
- Ideally, the cameras should be positioned at eye level.
- The cameras should be explicitly adjusted to the viewpoint of the remote participants.

What is essential for hybrid events, is sufficiently large screens or an additional projector.

- One screen should be positioned in the line of vision of the on-site participants and should show the remote participants. As many remote participants as possible should be visible.
- A further screen should be exclusively reserved for presentations and/or written visualizations.
- In addition, another screen or laptop via which the lecturer can see the remote participants makes it possible for the person who is currently speaking to see as large a section of the participants as possible.



# Feedback and Suggestions

Hybrid events are often included in (international) cooperation at present and will remain so in the future. Planning such events and carrying them out is a continuous learning process. We are therefore grateful for any feedback and suggestions from readers that will help us to supplement and update these guidelines.

Additional tips will also be included in our further work on the Capacity Development Online Navigator ([www.cdo.ptb.de](http://www.cdo.ptb.de)). PTB's *Capacity Development* work team is led by Laura Häußler and can be contacted via the following email address: [capacity-development@ptb.de](mailto:capacity-development@ptb.de).





# Imprint

**Published by**

Physikalisch-Technische Bundesanstalt  
Bundesallee 100  
38116 Braunschweig  
Germany

**Responsible**

Susanne Wendt  
+49 531 592-9030  
[susanne.wendt@ptb.de](mailto:susanne.wendt@ptb.de)  
[www.ptb.de/9.3/en](http://www.ptb.de/9.3/en)

**Text**

Suzana Lange, Anke Merziger

**Title image**

© iStock

As of July 2022







# Contact

Physikalisch-Technische Bundesanstalt

International Cooperation

Susanne Wendt

Phone +49 531 592-9030

Fax +49 531 592-8225

[susanne.wendt@ptb.de](mailto:susanne.wendt@ptb.de)

[www.ptb.de/9.3/en](http://www.ptb.de/9.3/en)