MG1.0

Meetings Guidance 1.0

TMB/SMB Guidance on effective virtual and hybrid meetings

Table of contents

1. Background

The world has seen an unprecedented shift to remote working and virtual meetings that began in March 2020 with the WHO's announcement of the emergence of COVID-19 as a global pandemic. In many respects, at that time ISO and IEC were already at the forefront in terms of virtual meetings, encouraging the use of virtual meetings to advance standards development work items quicker between traditional face-to-face meetings and providing tools and support to the technical community. Since the outset of the pandemic, a large number of business, civil society, government and international activities have moved into a virtual environment. Familiar ISO and IEC videoconferencing applications became the mainstay of economic, social and political activity across the globe for more than a year. With this transformation, global competencies and comfort in the use of virtual meeting tools has increased exponentially across all economic sectors, fostering a major process of digital transformation and bringing significant gains of productivity and inclusivity, especially in knowledge-based activities such as standards development.

The international context of ISO and IEC presented several participation dynamics in the virtual environment. On the one hand, developing countries and SMEs have benefited from greater participation opportunities within the fully virtual meeting context, without the constraint of travel costs and logistics. Whereas on the other hand, participants in the far western (Honolulu, Los Angeles, Vancouver) and eastern (Auckland, Sydney, Tokyo) time zones have often found themselves more disadvantaged with meetings tending towards suboptimal parts of the day.

As the world in general, and the ISO and IEC communities, contemplate business operations that combine the face-to-face and virtual modes, it will be important to consider that the virtual meeting management competencies of 2021 are far superior to those of 2019. Across the board, participants have expressed a desire for a return to the camaraderie and focus of face-to-face meetings, yet they seek guidance on emerging practices that will require an innovative, resilient, and empathetic approach to meetings.

With the above in mind, the ISO/TMB and IEC/SMB had a joint meeting of the two boards on March 15, 2021. During the meeting, a joint presentation was made by Steven Cornish (of ISO/TMB) and Vimal Mahendru (of IEC/SMB) to summarize the respective experiences of ISO and IEC in managing COVID-19 induced consequences to standards development processes. Based on the discussion, a Joint task Force was set up with the following scope.

To develop:
- Guidance/best practice to support effective virtual and hybrid meetings
- Guidance/best practice for building social relationships in a virtual work environment
- IT tools to support an effective ISO standards development
- ISO/IEC proposals for the revision of the Directives to support effective future operations
- Training programs for committee and working group leaders, delegates and experts
- A process/deliverable for faster development of a needed ISO deliverable due to unforeseen events or situations.
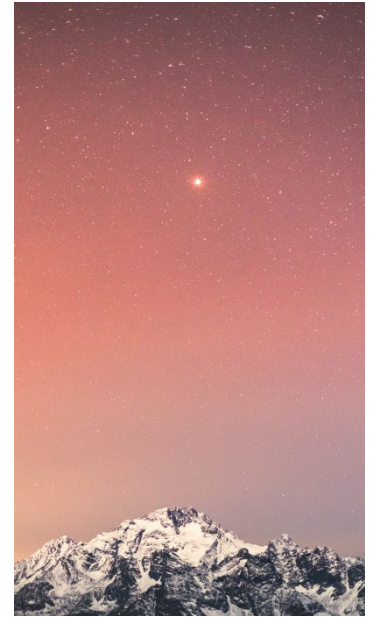
With this scope, the JTF has had four virtual meetings to date during which it has deliberated on various aspects of how virtual and hybrid meetings are becoming normalized and are no longer seen as exceptional. This document provided the results of the JTF's efforts to address the first two bullet points above.

With the gradual easing of ISO and IEC meeting restrictions beginning in July 2021, the technical community is seeking guidance on navigating by virtual and hybrid means. Our world, where pandemic restrictions are easing in some places, while other locales are facing new restrictions is expected to create a more complex and dynamic ISO/IEC meeting context, where wider complex decisions and considerations need to be taken. This guidance is a living document and will be revised as required, taking into consideration ongoing practice and future learnings.

Overall, this document is designed to provide guidance, recommendations and considerations for ISO and IEC committees and working groups as they contemplate their emergence from the virtual-only environment. It is not intended to provide requirements or to replace the provisions of the ISO/IEC Directives, Part 1 or any special measures put into effect by TMB and SMB. The document has been drafted to be consistent in application with the ISO/IEC Directives, Part 1.

This document is premised on the following core principles:
- *Planning and consultation* – The guidance encourages early and open consultation and consensus on meeting modes and timings, fostering predictability and flexibility to different stakeholder needs.
- *Flexibility and innovation* – The guidance encourages groups to maintain a measure of flexibility to respond to changing international or national circumstances, while leveraging the technological tools and complimentary innovations brought about by the virtual meeting period of 2020 – 21. Resilience in managing meetings and taking decisions based on sound judgment as matters evolve should be the way forward.
- *Empathy* – Participants are encouraged to display empathy for all other participants, whether they can attend a physical meeting or participate remotely.
- *Participation* – Groups are encouraged to use this guidance to maximize opportunities for fair, inclusive and engaging participation by all stakeholders.
- *Compromise* – Groups are encouraged to recognize the needs of virtual and face-to-face participants and the need to achieve a "meeting in the middle" in contemplating meeting duration and starting times.

2. Meeting modes

The following definitions of meeting modes apply:
- **Face-to-Face Meetings (F2FM)**: Any meeting that is planned where either all or most participants are attending at the location designated by the host.

Note:
1. Please see clause 5.7 below for further information on virtual participation in F2FM.

- **Virtual Meetings (VRM)**: Any meeting that is planned where all participants are attending virtually

- **Hybrid Meetings (HYM)**: Any meeting that is planned with a combination of participants attending at the location designated by the host and participants attending virtually

Notes:
2. The distinctions among these modes of meetings are based on how they are planned which is described in clauses 4.4, 4.5 and 4.6 below.
3. These definitions of meeting modes apply for all committees or plenaries, working groups, project teams, maintenance teams, ad hoc groups, advisory groups, chair's advisory groups, etc. These definitions and this guidance document do not apply to the governance level groups of ISO and IEC.
4. The term participant (above and throughout this guidance) applies to all leaders, delegates, experts, liaison representatives, ISO and IEC staff, guests and secretariat supporting staff to be engaged in the meeting.
5. Participation at a TC, PC, SC or WG meeting in any mode (VRM, HYM or F2FM) is regarded as fulfilling the active membership obligation to maintain P-membership status.

3. Progressing work without meetings

The intention of this clause is to provide guidance to groups on action items that can be taken by correspondence or committee internal ballots without requiring a meeting in any of the three modes. Please refer to the ISO/IEC Directives, Part 1 or seek guidance from your technical officer on advancing work without meetings.

Examples of action items that could be advanced virtually include (non-exhaustive list):

- Approval of preliminary work items and new work item proposals
- Approval of subcommittee chairs and working group convenors (a F2FM where candidates can meet with other participants prior to approval by correspondence may be helpful)
- Approval of target and limit dates for projects
- Approval of scope changes to projects (which may benefit from a F2FM discussion before an approval action is launched)
- Approval of WG recommendations to advance a WD to the next stage of development
- Confirmation of the results of a systematic review or a maintenance team recommendation to revise, reconfirm or withdraw a standard
- Review and approval of SC and WG reports
- Review and approval of liaison reports
- Approval of liaison requests
- Approval of offers to host meetings and setting the dates of future meetings
- Approval of group decisions on whether to hold meetings in F2FM, VRM or HYM mode
- Resolution of simple comments with clearly articulated proposals from group leaders
- Approval of strategic business plans

4. General guidance on meetings

4.1 Issuance of meeting notices, agendas and working documents

The timelines in the table below represent the minimum timeframes that are recommended and aligned to the Directives. Group leaders may increase these timelines to suit their particular situation.

	F2FM & HYM TC/PC/SC Plenary	F2FM & HYM WGs	VRM TC/PC/SC Plenary	VRM WGs
Calling Notice/ Meeting Logistics	Sixteen weeks before the date of the meeting	Six weeks before the date of the meeting	Eight weeks before the date of the meeting *	Four weeks before the date of the meeting *
Draft agenda	Sixteen weeks before the date of the meeting	Six weeks before the date of the meeting	Six weeks before the date of the meeting	Four to six weeks before the date of the meeting **
Proposals for new agenda items/ documents for decision/contributions on existing agenda items	Six weeks before the date of the meeting	Four to six weeks before the date of the meeting **	Six weeks before the date of the meeting	Four to six weeks before the date of the meeting **
Meeting Report	Within four weeks after the meeting	Within four weeks after the meeting	Within four weeks after the meeting	Within four weeks after the meeting

Notes:
1. * In accordance with TMB resolution 32/2020, until further notice and SMB resolution AC/16/2020.
2. ** In accordance with Annex SK of the ISO Supplement.
3. For other advisory groups and task forces, adhoc groups, CAGs, issuance of the documents stated above is at the discretion of the group and is based on its ongoing practices.

4.2 Scheduling meetings for VRM and HYM

Groups should use their best judgment on the need for and frequency of meetings.

Group leaders must assess their members by their locations and propose appropriate starting times for VRM or HYM that will accommodate all participants to the degree possible. Participants should all embrace a sense of empathy and agree on starting times and rotation of starting times that is fair for all.

Groups leaders may wish to use tools and visualizations in planning, e.g. websites that perform time zone conversions, or visualizations which show day/evening/night hours for the time zones of the group members. An easy to use time planner (e.g.: Time Zone Converter – Savvy Time will help with the scheduling of VRM and HYM start times. For small groups, online polling tools can be used to assist the group leaders in selecting acceptable meeting times.

Every effort should be made to avoid requiring participants to work in the middle of the night in their time zone (approximately 00:00 to 05:00). Meetings should not be planned to consistently favor, or disfavor, one part of the world or time zone, even if a plurality or majority of the group members are in that time zone.

In exceptional circumstances, groups may decide by consensus to schedule a VRM or HYM where for some participants the meeting may be between 00:00 and 05:00 in their time zones.

It is recommended that where the entire meeting or part of the meeting takes place between 00.00 and 05.00 for some participants, group leaders should find the means by consensus to ensure fair and equitable treatment for all participants in their time zones.

4.3 Choosing meeting modes and cancellation/postponement of meetings

Decisions on whether a group meeting is conducted in VRM, HYM or F2FM mode is a consensus of the group, based on consideration of the topics to be addressed, as well as costs for all involved, including the host. Group leaders should propose to the group for decision which mode of meeting may be most appropriate. The decision should be taken before the meeting is registered in the online meeting platform and the decision on the mode of meeting should be communicated in the circulation of the call for meeting notice.

Another possibility is that groups may decide by consensus that they will alternate the modes in which they conduct their meetings.

All meeting modes are assumed to have an official host. In the case of VRM, the relevant host responsibilities are taken by the group secretary and/or convenor.

Given the nature and unpredictability of global circumstances, group leaders and hosts may also propose the cancellation or postponement of a meeting to the group. However, to avoid delays in projects and development times, this should be a last resort. The proposed postponement or cancellation should be communicated to participants as soon as possible before the meeting, especially taking into consideration flight and hotel cancellations.

If a meeting is cancelled or postponed, information should be provided about a replacement date or a way forward to decide on the next meeting date.

4.4 Planning for a VRM

It is recommended that VRM be no longer than three hours in duration (including breaks), with a short break approximately midway into the meeting. Some groups may prefer to agree on an amount of time between VRM sessions and they may wish to not have more than six hours of VRM sessions within a twenty-four hour period.

Groups should consider the following factors when deciding to have a VRM:

- Forming a consensus that participants will join the meeting virtually
- Consideration of the time duration for the agenda to be completed in one or more VRM sessions that are no more than 3 hours each
- Technical capability and skills of participants to effectively hold the VRM
- Global circumstances which may render VRM the only viable meeting mode
- Consideration for first-time participants to the group who may need familiarization with the rest of the group and provisioning for social/personal relationships

4.5 Planning for a HYM

Some meetings may involve a combination of people participating in the physical location of the meeting designated by the host as well as people who wish to participate virtually.

Groups should decide on the duration and starting times of HYM and the timing of breaks, taking into consideration the needs of both the physical and virtual participants and the time zone of the location designated by the host.

Groups should consider the following factors when deciding to have a HYM:

- Consideration that some members of the group are able to be present at the physical location designated by the host
- Group leaders are equipped technically to manage participants both physically and virtually present in a fair and equitable manner
- At least one of the group leaders (chair, convenor or secretary) is able to participate at the physical location of the HYM
- Consideration that the meeting can be scheduled to accommodate, as much as possible, time zone differences for those physically present and those participating virtually
- Consideration that holding a HYM will lead to a higher rate of participation than a F2FM

4.6 Planning for a F2FM

At times, a group may decide that it wishes to have a F2FM.

Groups should consider the following factors when deciding to have a F2FM:

- Forming a consensus that all participants will join the meeting in person
- Confirmation that there are no travel restrictions imposed by the countries of the participants or the host that prevent participation in the meeting
- Consideration of any requests for virtual participation at the time of the decision to hold a F2FM
- Ability of the group leaders to participate at the physical location of the F2FM
- Consideration of whether the meeting is a first meeting of a new group where participants should get to know one another and establish some level of social/personal relationships

When a group is deciding on whether to have a F2FM, participants are expected to inform the group at this point if they must participate virtually. In choosing meeting modes, groups and their leaders should have empathy for all participants whether they must be engaged physically or virtually. O members may participate virtually in a planned F2FM under the conditions in this clause. Guests may also request to the group leaders to participate virtually.

If the circumstances for a participant change such that they must participate virtually in a meeting that has been decided to be a F2FM, this may be communicated to the group leaders no later than 4 weeks following the issuance of the call for meeting notice.

Closer to the planned F2FM date, there may be new government restrictions on travel or other force majeure circumstances that may prevent a participant from traveling to the F2FM. Under these circumstances, the participant must inform the group leaders as soon as possible of his or her need to participate virtually.

Note:
For the purposes of this document, a force majeure is any circumstance that may prevent a participant from traveling to a meeting, such as pandemics, war, rioting, earthquakes and volcanic activity, hurricanes and other extreme weather, energy blackouts, unexpected legislation, lockouts, slowdown, and labor strikes.

Committee leaders and hosts must be prepared to accommodate virtual participation under these exceptional circumstances on short notice.

Please note that personal circumstances that may prevent F2F participation are not considered force majeure situations that would justify virtual participation in a planned F2FM.

If a P member or official expert must participate virtually in a planned F2FM, the P member or official expert must accept that the meeting will take place for the duration and with the starting and ending times for the physical location as originally scheduled and agreed. P members and official experts requesting to participate virtually in a F2FM do not have the right to request that durations and starting/ending times be changed.

4.7 Handling technical problems for virtual participants during discussions and voting

To the extent possible, the group secretary or a supporting person should monitor whether participants are entering or leaving the VRM or HYM on an ongoing basis.

Should a participant encounter technical issues, it is her/his responsibility to re-connect and inform the committee leadership they are experiencing a technical problem. The group secretary should inform the group of the means by which participants can inform the group secretary that they are experiencing technical problems.

At the discretion of group leaders, they may adjust timing of planned breaks to accommodate participants experiencing technical problems to see if they can reconnect.

Participants with technical problems do not have the right to request that a discussion or decision agenda item be revisited. However, based on feedback from participants and flow of the discussions, group leaders may decide to revisit a discussion or decision agenda item.

Comments on discussion items received after the meeting may be incorporated into the meeting report or provided as an annex to the meeting report.

The group leaders and the host must take care to ensure technology does not hamper the planned meeting. Furthermore, should there be a technical issue whose origin is with the committee leadership or the host, then they shall make every effort to reconnect and proceed with the meeting. Committee leaders and hosts should have contingency plans and technical support available in case a technical problem originates from the group

leaders or host. It is left to the reasonable judgment of the committee leadership to plan to complete the pending agenda keeping all participants in mind.

For a VRM or HYM, it is good practice for group leaders to designate an acting chair or convenor to proceed with the meeting in case the group leader loses virtual connection.

5. Annexes

Annex A – Additional resources

A.1 Published ISO and IEC guidance

This guidance document is consistent with, does not take precedence over and should be used in practice in conjunction with relevant clauses of the ISO/IEC Directives, Part 1 and the following relevant ISO/TMB and IEC/SMB resolutions/decisions:
- TMB resolution 28/2020
- TMB resolution 32/2020 and TMB resolution 33/2020
- SMB AC/16/2020

ISO-specific advice for VRM, issued April 2020 as part of the ISO response to the COVID 19 pandemic provides foundational advice on delivering VRMs, see here.

COVID-19: Decisions made by IEC/SMB (AC/16/2020), see here.

IEC Remote participation to plenary meetings of Technical Committees, Subcommittees and Systems Committees (AC/10/2020), see here.

Information related to IEC TC/SC/SyC and CA Systems meetings in the context of Coronavirus (AC/8/2020), see here.

A.2 IT Tools

Recognizing the VRM competencies gained during the COVID-19 pandemic and the widespread use of virtual collaboration software, there are a variety of IT tools that can be deployed in VRM and HYM, making them more participatory and engaging for all participants. The IT tool used for the virtual participants should be discussed and agreed upon in good time before the call for meeting notice is issued.

Groups should also note in the selection of software or other IT tools to support the work that the employers of some participants may have in-house restrictions against the use of some software or IT tools.

A.2.1 ISO and IEC IT tools supporting VRM and HYM

ISO /IEC meetings platform – mandatory for scheduling/planning/registering for all meetings, see here for ISO and here for IEC.

The ISO helpdesk page for meeting management provides general guidance and best practices for meetings including:
- Meeting roles and permissions, see here.
- Meeting timelines and registration periods, see here.
- Electronic meeting feedback, see here.

The IEC TC tools page provides guidance on MRS, the meeting registration system, and on web conferencing (Zoom).

The preferred platform used by ISO and IEC to conduct meetings is Zoom. Detailed help and training on ISO's main VRM platform – Zoom is available through ISO Connect, see here.

IEC webpage dedicated to COVID-19, see here.

A.2.2 Other software programs and IT tools

The preferred platform for ISO and IEC is Zoom. Should committee members prefer, they may use other online meeting platforms, including WebEx and Teams provided that they have similar functionality to support ISO and IEC standards development. Note that ISO and IEC do not provide technical support for these platforms.

Other online synchronous collaboration tools, for example for digital whiteboarding and desk sharing, may be helpful for open-ended or strategic discussions.

Annex B – Practical guidance for groups leaders of VRM and HYM

Note:

To be read and used in conjunction with other materials on the roles and responsibilities of group leaders in the ISO/IEC Directives, Part 1 or other guidance documents issued specifically for this purpose.

B.1 General guidance

Group chairs and convenors should plan their meetings and agendas ahead in collaboration with their group secretaries, support persons or designated persons from the host NC. This should include, among other things, assigning responsibilities for:

- Hosting the meeting
- Who will control screen sharing
- Who will control and monitor the chat and voting functions and read out comments from the chat function
- Highlighting questions in the chat function to ensure the leadership can respond appropriately
- Who will maintain the queue of participants wishing to speak and recognize each in order
- Who will mute and unmute participants
- Development of any presentation materials for the group leaders
- Documenting the attendance/participation and distributing this listing
- Taking meeting notes and preparing and disseminating the meeting report and/or any resolutions

When developing an effective agenda for a VRM or HYM, group leaders should consider:

- Setting realistic goals
- Indicating whether each agenda item is for decision or for discussion
- Indicating who has ownership or will be the primary speaker for each agenda item
- The appropriate time for each agenda items and management of the meeting to stay on target with time

It is recommended that groups consider the full use of VRM platforms in HYM for all participants, especially for strategic and brainstorming discussions requiring the views of all participants. Thus, in a HYM, it is recommended that all participants at the location designated by the host should also use the VRM connection to take advantage of the video and audio from their computers, staying on mute when not speaking and using headsets with microphones.

The group chair or convenor may also consider and recommend use of VRM breakout rooms for which the leadership is expected to provide adequate training to the participants at the start of the meeting.

Whilst some groups have chosen to conduct more than one session of a VRM to accommodate participants in different time zones, this approach does not allow all members to share in decision-making as a whole group in a VRM. If this approach is used, it is recommended that it be used for discussions and all participants should be fully informed of the results of the separate VRM discussions. Decisions should be taken by correspondence following the separate VRM sessions based on full understanding by all participants of the separate VRM discussions.

B.2 General guidance for group secretaries of VRM and HYM

Group secretaries should:

- Create the meeting in the online meetings platform indicating it as "Virtual Meeting" or "Hybrid Meeting"
- When meeting details are finalized, "Confirm" the meeting to enable registration
- Add a link to the VRM or HYM on online meetings platform
- Create and project a welcome slide that participants will see as they log in that will feature key reminders of the group etiquette for virtual participation (stay muted, use the chat function, etc.)
- Consider the settings for the VRM or HYM, including whether participants should automatically be muted as they join a meeting to avoid disruption; ability for the group secretary to remove participants who are not registered to attend; and leaving the notification tone on for new participants so the leadership are made aware of new attendees joining
- Monitor the "raise hand" and chat functions as well as their texts and emails from those connected to the meeting by telephone to identify those wishing to speak, confirming that they are heads of delegations for committee meetings or official experts for WG meetings, and to develop the queue of speakers
- Assist the groups chair or convenor in recognizing those wishing to speak in order
- Ensure that attendees are muted and are not contributing to unintended background noise

It is assumed that group leaders are adept at managing and monitoring the VRM or HYM tool and its participant, chat and voting functions. Should any guidance be required Zoom has multiple simple self-learning modules at Zoom Help Center.

Please note that the recording of meetings in any mode is addressed in the ISO/IEC Directives, Part 1.

B.3 Engaging everyone in a meaningful manner

Regardless of the mode of the meeting, group leaders should:
- Ensure that all heads of delegations in committee meetings or official experts in WG meetings have fair and equitable opportunities to voice their comments and concerns
- Recognize, encourage and appreciate participation from all heads of delegations or official experts
- Ensure that, regardless of how difficult the discussion may be, it is equally engaging for online or in-room participants
- Ask heads of delegations or official experts wishing to speak, to indicate their interest by using the "raise hand" function or by contacting the group secretary by the means recommended if participating by telephone
- Call upon heads of delegations and official experts that have requested to speak in the order that their requests have been received
- In a HYM, all F2F participants may be encouraged to consider logging onto the online platform in the meeting, allowing them to see and engage with virtual participants and to use their headsets with microphones when they speak, or alternatively, use a good quality central audio system for speakers and microphones
- In a HYM, consider using the functionality of online platforms to mute all in-room and virtual participants, enabling speakers to be heard clearly, regardless of their in-room or online presence

B.4 Building consensus

Group leaders should:
- Highlight substantive comments emerging in the chat function from heads of delegations and official experts and encourage discussion of them by the group
- To the extent possible, use the screen to present in writing perceived consensus statements as this will help participants to understand and make suggestions to improve the consensus statement

B.5 Voting

If consensus is in doubt, the voting function in the VRM tool used may be used to assess existence of consensus.

When taking a vote by the voting function in the VRM tool, whether a decision requires a two-thirds majority or a simple majority shall be as detailed in the ISO/IEC Directives, Part 1.

Group leaders should ensure that votes are only counted from heads of delegations in committee meetings or official experts in WG meetings.

B.6 Duration and breaks in VRM and HYM

It is recommended that VRM be three hours in duration (including breaks). Breaks should be arranged approximately midway into the meeting.

Groups wishing to hold a HYM should decide on the duration of the meeting and the timing of breaks.

Group leaders may decide to change the timing of breaks as necessary to facilitate the work or to accommodate participants with technical problems.

B.7 Post-meeting survey

It is recommended that groups periodically be surveyed by ISO and IEC to share their thoughts and experience on the use of this guidance document. The survey should be short enough that each participant may answer it online very quickly and the survey interface should be as smooth and hassle-free as possible for all participants. This survey will not focus on the content of meetings, but on the planning, scheduling, and execution of the meetings, especially in relation to the use of this guidance document. Possible questions for the survey may include:
- Was the meeting mode the right choice? Y/N
- Did you as a participant have equitable participation in the meeting? Y/N

- Were the group leaders well prepared and effective during the planning and preparation for the meeting and during the meeting? Y/N
- Did the VRM tool work effectively to contribute to a productive meeting? Y/N
- Did you or any other participants experience technical problems during the meeting? Y/N
- Was the duration and starting time for the meetings of concern to you? Y/N
- What actions may have been taken in the group to build social capital among participants? (comment field)
- What other comments do you wish to share regarding meetings in F2F, VR or HY modes? (comment field)

The survey should provide fields for those responding to indicate a specific meeting or set of meetings over the course of a time period, the mode of the meeting or meetings, and the physical or virtual participation status of the respondent. ISO and IEC should establish this survey jointly and collect all input from the survey together in one database or spreadsheet.

Annex C – Practical guidance for participants in VRM and HYM

Note:
While Annex B above provides guidance specifically for group leaders, the guidance in this clause will benefit all participants, including group leaders.

C.1 Preparing for a meeting

In advance of a meeting, participants should:
- Determine a communications plan among your national representatives to be used during the meeting – it is recommended that you do not use the meeting chat function for private communications to coordinate national views – other tools such as text, WhatsApp are recommended
- Ensure that they have adequate technical capability to participate effectively in a VRM or HYM without disruption
- Inform group leaders as early as possible if a participant needs to participate virtually in a planned F2FM
- Take into account and accommodate some participants who may need to participate virtually and are not able to participate physically on location
- Consider the needs of all participants when deciding on the starting times for VRM and HYM

C.2 During a meeting

Participants should:
- Select an appropriate location without distractions
- Test your connection well in advance, aiming to connect and log in to the meeting 10-15 minutes beforehand to ensure successful connection and to avoid delays (this should include the host of the meeting)
- Ensure that your full name – first name and surname – is provided on the VRM tool participant area and consider adding national body affiliation or liaison association and role (e.g. John SMITH, ANSI, HoD) – this will help the group secretary to capture and confirm attendance accurately (To do this, click on your name on the participants list in the VRM tool, select 'More', then 'Rename' to make your modifications)
- If your sound quality is low, consider reconnecting using the 'Call Back' function
- Consider using a headset with microphone for more effective sound in a VRM or HYM
- If you are late in joining, use the chat function to announce your arrival and wait for the group chair or secretary to recognize you
- Use the chat function to inform the group if a participant must leave the meeting
- Inform the group secretariat as quickly as possible by email or text if a participant leaves a VRM or HYM due to a technical problem
- Respect that participants do not have the right to require agenda items be revisited if they experienced a technical problem
- Use the "raise hand" function or email/text the group secretary (if participating by telephone) if you are a head of delegation in a committee meeting or an official expert in a WG meeting to request to speak, respect the queue for speakers and do not intervene or interrupt without being called upon
- Request the floor if you are a head of delegation or official expert to seek clarity on a comment/proposal that was made without debating it
- Consider using the chat function if you are a head of delegation or official expert to indicate full support or opposition to comments
- Seek the floor, if you are a head of delegation or an official expert, when making a substantive and new contribution to the discussion and decision
- Keep themselves on mute when not speaking
- When voting/commenting, heads of delegation and official experts should follow instructions given by the group chair or secretary – using the VRM tool voting function
- Respect that only the heads of delegations in a committee meeting or official experts in a WG meeting, should use the VRM tool voting function during votes and the chat function if there are many participants, to help the group leaders exercise control over discussion

Note:
Both prior to and during a VRM or HYM, all participants should follow best practices set by the group leaders to ensure information security, cybersecurity and privacy protection.

C.3 Use of telephones in VRM and HYM

While VRM tools provide the option for participants to connect through telephone numbers rather than their computers, it is recommended that participants fully connect to the VRM tool through their computers. Connection by telephone alone will limit the effective access and functionality for those participants in the meeting.

C.4 Travel restrictions from participant countries

Participants shall determine whether their own governments impose any restrictions on their travel. This includes travel restrictions through any connecting airport countries while traveling to or from the meeting. If such restrictions exist, those participants should inform the group leaders and host and request to participate virtually as early as possible.

Annex D – Practical guidance for hosts of F2FM and HYM

D.1 Technical specifications

Meeting facilities for F2FM should include in-room screen projectors, cellular telephone network reception, wireless internet access, and electrical outlets for all participant laptop power connections, and, for meetings of more than 40 people, public address systems. For meetings of over 40 persons, all featured speakers should have microphones (lavaliere or handheld), as well as participants so everyone can be easily heard. Under pandemic conditions, it is recommended that each participant have his or her own microphone or use a good quality central audio system for speakers and microphones.

Alternatively, for F2FM with some virtual participants or for HYM, sound for participants could be addressed by each participant physically present using the VRM tool connection over her or his laptop, staying on mute when not speaking and using a headset with microphone.

It is recommended to have a hardwire internet connection for the device running the VRM tool in the meeting. Wireless can work as well, but hardwire is more dependable.

Zoom has a useful webpage that provides information on bandwidth requirements to support VRM and HYM (please see System requirements for Windows, macOS, and Linux – Zoom Help Center. According to this site, about 4MBPS bandwidth is essential per participant to support wholesome unrestricted participation. Thus, as an example, for 20 participants, the host should organize for bandwidth of 80 MBPS (minimum).

D.2 Technical setup to support group leader management of the meeting

The group secretary should work with the host's technical support person to test the virtual support tools for the meeting in advance of the meeting starting.

D.3 Pandemic considerations

D.3.1 Spacing and infection control

Group leaders and hosts, working with appropriate representatives at the host location, whether it is an organization office or a hotel, should arrange the meeting room layout and other aspects in compliance with local rules and protocols.

D.3.2 Coffee breaks and lunches/dinners during HYM and F2FM

Hosts, working with appropriate representatives at the host location, whether it is an organization office or a hotel, should arrange coffee breaks and lunches/dinners in compliance with local rules and protocols.

D.4 Host country travel restrictions and quarantine for in-coming travellers

Hosts and group leaders shall determine that a host country's government does not impose any restrictions or quarantines on participants to enter the host country for a F2FM or HYM. If such restrictions exist, accommodation must be made by the group leaders and hosts for virtual participation for the affected participants.

Annex E – Practical guidance/best practices for building social capital among virtual participants

Definition
social capital
the network of social connections that exist between people, and their shared values and norms of behaviour, which enable and encourage mutually advantageous social cooperation.

We understand that building social relationships among participants is a challenge when working in a VRM or HYM environment. The following are ideas/suggestions that groups may find helpful and will be further developed and added to over time:

E.1   Groups may wish to use selected break periods among HYM participants to focus on virtual participant-centric events/discussions or a presentation on an area of technical/social interest to the group. Such events gives virtual participants the option to engage or disengage as they prefer.

E.2   During breaks, the VRM or HYM connection should be maintained. Groups may find it beneficial to simply allow participants to converse socially without a planned discussion.

E.3   Participants are encouraged to conduct bilateral meetings between group meetings with their colleagues to establish and strengthen social capital.

E.4   Group leaders may wish to encourage participants to sign onto a VRM or HYM early (no more than one hour before the meeting) to interact socially with the group leaders and one another.

E.6   Group leaders may wish to begin first meetings of a group, or meetings involving significant numbers of new participants, with an introductions agenda item where each participant shares professional and personal interest information about himself or herself. Of course, this should be carefully managed if the group is very large.

E.7   For F2FM with some virtual participants or for HYM, it may be helpful for the host to provide a screen where all remote participants could be displayed and seen as well as a broad camera view of the physical room so that all participants may see one another.

Annex F – Best practices and anecdotal ideas online resource

It is proposed that ISO and IEC staff explore, recommend and set up the most effective means for group leaders to share their committee specific best practices and anecdotal ideas for VRM and HYM. Sharing these items for access by all group leaders will help them to discover good options that have worked for other groups that they might wish to implement in their groups.