SG13/045A/INF

Guidelines for IEC Committees Working with Consortia

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WORKING WITH CONSORTIA

Guidelines for IEC Committees

1   Introduction

The International Electrotechnical Commission (IEC) recognizes the very important role that "consortia" (multi stakeholder membership organizations driving technologies for a safer, sustainable and efficient world) play in the development of standards and the adoption and use of these standards worldwide. Where market demand warrants, partnerships with external organizations can lead to strengthening the IEC brand and leadership. Care must always be taken to ensure collaboration is carried out on a win-win basis for both the IEC and the consortium.

The IEC Strategic Plan acknowledged this role and identified the need to further facilitate consortia participation and encourage the formation of additional partnerships[1].

This document has been developed to provide IEC Committee (TC/SC/SyC) Officers and experts with guidance on how to better work with consortia.

2   Benefits for IEC Committees

2.1   General

With the rapid pace of digital, technology and societal changes, the collaboration framework of a consortium has been expanding beyond industry and professional to include other organizations such as academia, government & regulators, non-profit, funding agencies, commercialization agents and investment communities with the sole purpose of working together and sharing both risks and future rewards of common business goals. As such consortium members pool resources to develop and share methods and standards to drive the kind of transformational change that individual organizations struggle to achieve on their own. A consortium helps its member organizations accelerate and improve the effectiveness of innovation by connecting and engaging key players in a dynamic and collaborative environment. It accelerates research and development and shortens time to value of new technologies and offers a compelling competitive advantage in the marketplace.

Considering this evolution in the framework of consortia, the IEC has been expanding and adjusting the services it offers to the global community with identifiable benefits such as:

- Promoting the IEC and its brand as a global provider of international standards and conformity assessment systems
- Enhancing the IEC's ability to diversify its business model and revenue sources through the potential identification of new products and services

Together with the potential benefits to consortia, the IEC Consortia partnership creates a win-win situation.

2.2   Ability to address fast-moving technology

Enhancing the ability and speed of TC/SC/SyCs to standardize technologies is essential to ensure that they continue to fully cover the technologies within their scope and maintain the IEC brand as the leading provider of electrotechnical standards. Working with consortia is an enabler in this requirement.

Consortia can often respond more quickly to market opportunities made available due to rapid technology advances. Specifications developed by consortia can provide valuable draft input

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[1] The IEC Strategic Plan states the need for "providing innovative solutions to collaborate with other organizations".

for international standardization. The IEC Publicly Available Specification (PAS) process allows a consensus document from an external organization to be published quickly and subsequently, after international approval, as an international standard. In other cases, experts from consortia can join TC/SC/SyC discussions to identify and assist in the development of standards applicable to rapidly changing technology areas.

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2.3   Expert participation

Collaborating with consortia increases the expert resources for TC/SC/SyCs in developing technical standards:

- TC/SC/SyCs can gather new experts from a wide range of stakeholders from the consortia.
- TC/SC/SyCs can increase the awareness of their work to consortia members.
- Consortia member participation in domestic National Committees (NC) can increase thereby enhancing national level balloting of standards documents.

2.4   Speed and efficiency

TC/SC/SyCs can quickly and efficiently develop international standards in a specific area by incorporating consortia specifications that are recognized as de facto standards with broad market adoption.

Often, TC/SC/SyC experts and consortia experts come from the same company, so faster international standardization can be beneficial for that company.

While the TC/SC/SyC structure can foster wider acceptance of standards, it is important to assess the membership and composition of consortia when adopting their specifications.

2.5   Accelerating the implementation of standards

Consortia are often better at promoting the use of standards, for example by providing white papers, training and other marketing materials to accelerate the adoption of products utilizing a standard. TC/SC/SyCs can benefit from cooperating with consortia on prototyping or testing activities to assess the practical implementation of standards. Such feedback could improve the development of IEC standards.

Usually, consortia members include product manufacturers and users. They can implement the specifications into their products and assess the quality of the specifications through prototyping and participating in consortia's interoperability "plugfest" events and certification programmes. Reference implementations, including sample software codes could also be developed by consortia. Cooperation may extend to the IEC conformity assessment programmes.

2.6   IEC Strategic Plan

The IEC Strategic Plan has identified the need for better coordination with consortia. This is seen as an opportunity where both the IEC and the consortium will benefit as each brings its unique capabilities to the table to create "win-win" situations. It is important to understand the strengths of each party. The IEC contributes a unique process whereby stakeholders can work together to reach international consensus compliant to world trade requirements. Consortia contribute their technical and business expertise and resources to ensure that the standards meet real world requirements and for practical use.

3   Working with consortia

3.1   How to make contact

3.1.1   First contact

The first contact might be initiated by a consortium interested in working with the IEC or by a member or expert from a TC/SC/SyC. Contact can be made with the relevant TC/SC/SyC right away.

,Either party can contact the "Consortia Facilitator" (reachable at consortia@iec.ch). who can assist in establishing communication between parties, review potential liaison arrangements, or provide advice regarding bilateral cooperation.

3.1.2 From IEC Committees to consortia

It is usual that a member or expert of a TC/SC/SyC is aware of the existence of a relevant consortium in the technology area covered by the TC/SC/SyC. Contact will be easily found from the consortium website or through business relationships. TC/SC/SyC Officers (Chair or Secretary) can directly contact the identified person to discuss potential collaboration.

As consortia may not be familiar with the IEC, TC/SC/SyC Officers provide them with IEC information, with the support of the IEC Central Office where needed. The Consortia Facilitator can be contacted any time to provide help and advice.

After communication has been established with a consortium, a dedicated contact person within the TC/SC/SyC is appointed to oversee this relationship.

3.1.3 Handling consortia enquiries

A consortium may have an interest in communicating with the IEC, for instance to transform one of its specifications into an international standard. Should a TC/SC/SyC require assistance in responding to consortia enquires, contact should be made with the Consortia Facilitator. The Consortia Facilitator can then discuss potential collaboration work with TC/SC/SyC Officers and attempt to identify the optimum way forward.

Additional information is available in the Guidelines for Consortia

3.1.4 Role of Consortia Facilitator

The Consortia Facilitator (consortia@iec.ch) is an IEC Central Office staff member who can assist consortia in:

- Identifying the optimum TC/SC/SyC to address their work
- Negotiating any necessary arrangements with the target TC/SC/SyC
- Providing ongoing advice and support to both parties
- Connecting them to relevant NCs

The Consortia Facilitator will connect the consortium representative to the relevant TC/SC/SyC Officers for further discussion on potential collaboration and processing of their liaison request if applicable.

Note that a vote of the TC/SC/SyC will be required to accept a liaison application and furthermore a New Work Item Proposal (NP), Preliminary Work Item (PWI) or Publicly Available Specification (PAS) will be required should the work be new to the TC/SC/SyC. Together with the inputs from TC/SC/SyC Officers, the Consortia Facilitator can help identify the options for the consortium,

For consortia having no experience with IEC standardization, the role of the Consortia Facilitator is very broad. Many of these consortia may have little knowledge about the IEC's technology domains and may even be offering specifications that conflict with existing or ongoing IEC work. It will be important for the Consortia Facilitator to discuss potential collaborative work with all TC/SC/SyCs with a relevant scope. TC/SC/SyC Officers will also provide important information to the Consortia Facilitator to support the identification of the optimum TC/SC/SyC, or even provide advice on whether such collaborative work should be pursued at all. In addition, a TC/SC/SyC will need to identify which P-member NCs are willing to accept the work.

3.2 How to organize information exchange

3.2.1 Basic information

As a start, a face to face meeting between consortium representatives and TC/SC/SyC Officers is recommended, assisted as needed by the IEC Central Office and the Consortia Facilitator.

In some instances, TC/SC/SyCs might invite consortium representatives to one of their meetings as observers or set up an adjacent bilateral meeting. TC/SC/SyC Officers should communicate basic information such as:

- Value of IEC international standards as recognized by the World Trade Organization (WTO) Technical Barriers to Trade (TBT) Agreement
- International organization based on NC membership
- International standards approved by NC voting
- Standardization process according to the ISO/IEC Directives, including the IEC Supplement
- IEC/ISO/ITU common Intellectual Property Right (IPR) policy and copyright obligations
- Possible participation as category C liaison[2] or Registered Member (SyC only)

From the consortium, TC/SC/SyC Officers should obtain information such as:

- Readiness of consortium to meet liaison C requirements (see 3.2.2) if applicable[3]
- Size of the consortium (e.g. number of member companies, typical company names, geographical distribution, international scope)
- Development process of consortium's deliverables
- Governance processes and structure (e.g. membership, participation, consensus building, decisions)
- Consortium's market position (e.g. number of products on the market)
- Communication with the NCs of the country or countries where the consortium is established
- Objectives and expectations of the collaboration with the IEC

3.2.2 Liaison C mandatory requirements

Liaison C requirements are outlined in subclause 1.17 of the ISO/IEC Directives Part 1. In short, a liaison C organization must:

- Satisfy standards development procedures, copyright and IPR requirements of the IEC
- Have sufficient representation in the relevant technical or industrial field
- Be multinational in its objectives and standards development activities
- Be not-for-profit
- Have competence and expertise to contribute to standards development or to promote their implementation
- Have a process for stakeholder engagement and consensus decision-making

The ISO/IEC Directives require 2/3 approval of the TC/SC/SyC's P-members voting and subsequently 2/3 approval of the SMB (subclause 1.17.4).

3.2.3 Technical information

After basic information exchange, if both parties agree, technical information exchange will follow. The TC/SC/SyC, in collaboration with the IEC Central Office, can introduce its current activities using the TC/SC/SyC dashboard on the IEC website and the Strategic Business Plan (SBP).

TC/SC/SyC Officers will receive technical information from the consortium such as draft specifications, white papers, introductory documents, and so on. In some cases, consortia make their specifications open and available for free. TC/SC/SyC Officers will investigate and

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[2] The IEC normally uses the liaison C arrangement for specific joint projects. If more general work is to be conducted on multiple projects within the TC/SC/SyC, a liaison A arrangement may be considered. The Consortia Facilitator will assist in identifying the most appropriate arrangement.

[3] The IEC has established dual logo agreements with some organizations. The Consortia Facilitator will be aware of such an option should this be available. Cooperation under a dual logo agreement is documented elsewhere.

evaluate whether a given specification is fit for standardization through the IEC and check any possible conflict with existing IEC standards and activities. They can share the information with specific TC/SC/SyC experts for more in-depth evaluation. They also need to be careful not to receive any confidential information from the consortium.

If both parties agree on the terms of collaboration on a specific standardization activity, actual proposals and participation in the TC/SC/SyC will follow.

3.3   How to have consortia participate in IEC work

Consortia experts can participate in standardization work as experts of Working Groups (WGs), Maintenance Teams (MTs) or Project Teams (PTs), which develop IEC normative deliverables, under the following conditions:

- Experts appointed by an NC P-member
- Experts appointed by a C liaison organization

Note, if the participation of experts in WGs is via organizations with category C liaison, they may not participate as Convenor or Project Leader. However, should consortia members wish to take on such a leadership role, they should be encouraged to join their corresponding NC so that they can become qualified to assume this role.

For additional information please refer ISO/IEC Directives Part 1 Sections 1.12 and 1.17

3.4   Options to publish consortia documents within the IEC

There are 3 identifiable pathways for developing and publishing documents within the IEC procedures:

- For mature publications already in use by a consortium, the IEC Publicly Available Specification (PAS) process allows its quick publication for a limited time. For further details on how the consortia could submit documents to IEC and other procedures, see section 3.4.2.2 below

- In situations where a consortium may wish to publish non-normative (informational) material under IEC banner, the path of deliverable Technical Report (TR) could be used.

- Often a non-normative TR document accompanies work leading to a Technical Specification (TS) or an International Specification (IS). In such cases the work is initiated using the PWI procedure, so that it is entered into the work programme of the corresponding TC/SC.

- Under some exceptional cases and where applicable for a consortia-partnership, a SyC could develop an IS

For the purposes of partnership, the IEC has different models for cooperation agreements and the details of the arrangements arising from intellectual property rights (IPR) might differ from case to case.

For the purposes of developing and drafting standards, common patent policy for IEC/ISO/ITU and copyright policy will apply.

To bring the work of the industry fora and consortia into the realm of the IEC, the path of PAS speeds up standardization in areas of rapidly evolving technology and generally responds to an urgent market need.

For further details please contact the Consortia Facilitator (consortia@iec.ch) For additional information on the development of the deliverables PAS, TR, TS and IS, please refer ISO/IEC Directives Part 1 Sections 3.

3.4.1 Initiating work towards publication of an IS or TS

Work to publish a TS or IS must be approved using an NP. The ISO/IEC Directives (see quotation below) prohibit liaison C members from directly proposing an NP. However, a P-member NC, or the TC/SC Secretary (with the approval of P-members) can do this on their behalf. Since an NP must ultimately be approved by the P-members and must attract a minimum number of P-member experts, the consortium as a Liaison C should discuss options for new work with the TC/SC Secretary to facilitate P-member acceptance.

If the consortium is in one of IEC member countries, they should approach their NC to get involved at the national level and/or the global level in the IEC. The NC is responsible for accrediting their experts to participate in the co-development of standards projects addressing their needs.

The Consortia Facilitator can assist TC/SC officers in this process.

Note: For the latest version of the content referenced below, please proceed directly to the publication by clicking the hyperlink

ISO/IEC Directives Part 1

2.3 Proposal stage
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2.3.2 A new work item proposal within the scope of an existing technical committee or subcommittee may be made in the respective organization by
- *a National Body;*
- *the secretariat of that technical committee or subcommittee;*
- *another technical committee or subcommittee;*
- *an organization in category A liaison;*
- *the Technical Management Board or one of its advisory groups;*
- *the Chief Executive Officer.*

3.4.2 Options to speed up publication

There are several options to accelerate the publication of IEC deliverables depending upon the maturity of the work. Normally an NP is accompanied by an outline of the proposed work, or by a preliminary draft. However, the consortium may have a near final specification available, or may even have a specification already in use.

Two options are available for mature specifications.

3.4.2.1 Issue of parallel CDV and NP ballots

If the proposed material is considered mature, an option to reduce the time to publish an IS or TS is to circulate the mature specification as a CDV in parallel with the NP. This allows the balloting periods for both to overlap. If approval is obtained for both, the TC/SC Secretary, provided no technical changes are required, has the option to recommending the document for immediate publication (*ISO/IEC Directives Part 1* subclause 2.6.4). Note however that final publication requires compliance to the *ISO/IEC Directives Part 2*.

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ISO/IEC Directives Part 1 - IEC Supplement

2.3.4
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The chair and secretary of a technical committee or subcommittee may decide, where appropriate, that the ballot on a new work item proposal and enquiry draft ballot proceed in parallel. This can obviously be done only if a mature enquiry draft is available for ballot.

The new work item proposal and enquiry ballots shall be distributed simultaneously with two distinct references and with two distinct ballots. The time limits for the new work item proposal and enquiry draft ballots shall remain unchanged.

During the new work item ballot, the work item is considered as being at the PNW stage code.

If the new work item proposal is not approved, the result of vote on the new work item proposal shall be issued immediately announcing that the enquiry draft ballot has been cancelled.

If the new work item proposal is approved, the result of vote on the new work item proposal shall be issued according to the normal procedures and the enquiry draft ballot shall continue.

The project is considered as being at the CCDV stage code.

3.4.2.2   Use of PAS

For mature publications already in use, a consortium may wish to quickly publish their existing specification in its current form. Often a consortium's existing document may not fully conform to the formatting requirements of the ISO/IEC Directives Part 2. The PAS process allows the quick publication of an existing document for a limited time. For permanent publication, subsequent work will be carried out to do any required re-formatting prior to publication as a full IEC IS.

A PAS may be an intermediate specification, usually published prior to the development of a full IS. The PAS is published directly after a successful simple majority vote.

There are several paths for a consortium to submit specifications through the PAS process. A liaison C consortium can directly submit a PAS to the TC/SC Secretariat for circulation for voting. Alternatively, a consortium can contact an NC or the TC/SC Secretary, and ask that their document be circulated for voting.

Note however that since the PAS will have a maximum lifetime of 2 years with one extension of 2 years possible, it will be important to initiate an NP to elevate the document to permanent status as soon as feasible. This NP can be initiated in parallel with the PAS, but will require the cooperation of an NC or the TC/SC Secretary, as discussed above in 3.4.1.

Note: For the latest version of the content referenced below, please proceed directly to the publication by clicking the hyperlink

[ISO/IEC Directives Part 1](#)

3.2 Publicly Available Specifications (PAS)

3.2.1 A PAS may be an intermediate specification, published prior to the development of a full International Standard, or, in IEC may be a "dual logo" publication published in collaboration with an external organization. It is a document not fulfilling the requirements for a standard.

3.2.2 A proposal for submission of a PAS may be made by an A liaison or C liaison (see 1.17) or by any P-member of the committee.

The submission of a PAS can be made using:

   a) *a draft originating from an existing, approved project for the development of an International Standard prior to the circulation of the enquiry draft (CDV);*

   b) *a proposal for a PAS where there is no existing approved project. In this case, it may be either submitted directly for approval, noting that for subsequent transformation into either a TS or IS, it shall go via the new work item proposal procedure or for immediate transformation of the PAS into another normative document by the parallel circulation of the PAS and a new work item proposal (see Annex SB).*

3.2.3 The PAS is published after verification of the presentation and checking that there is no conflict with existing International Standards by the committee concerned and following simple majority

approval of the P-members voting of the committee concerned. Competing PAS offering different technical solutions are possible provided that they do not conflict with existing International Standards.

The wording "pre-standard" may be included on the cover and title pages at the request of the technical committee or subcommittee. It shall be in smaller font and situated immediately below "Publicly Available Specification" at the top of the page.

3.2.4 A PAS shall remain valid for an initial maximum period of 3 years. The validity may be extended for a single period up to a maximum of 3 years, at the end of which it shall be transformed with or without change into another type of normative document or shall be withdrawn.

3.4.3   Use of TR

TRs typically address temporary needs to publish non-normative (informational) material which is not appropriate for a TS or IS. There are situations where a consortium may wish to facilitate the publication of a TR to provide non-normative information. Often such documents accompany work on a TS or IS. For example, they may provide explanatory material, guidance or temporary information which is not normative. In such cases it is recommended that the work be initiated using the PWI procedure, so that it is entered into the work programme of the corresponding TC/SC.

The procedure for initiating a PWI is documented in subclause 2.2 of the [ISO/IEC Directives Part 1](#) and requires a simple majority of P-member approval. TRs are described in the [ISO/IEC Directives Part 1](#) subclause 3.3.

Note: For the latest version of the content referenced below, please proceed directly to the publication by clicking the hyperlink

[ISO/IEC Directives Part 1](#)

3.3 Technical Reports

3.3.1 When a technical committee or subcommittee has collected data of a different kind from that which is normally published as an International Standard (this may include, for example, data obtained from a survey carried out among the National Bodies, data on work in other international organizations or data on the "state of the art" in relation to standards of National Bodies on a particular subject), the technical committee or subcommittee may decide, by a simple majority vote of P-members voting, to request the Chief Executive Officer to publish such data in the form of a Technical Report. The document shall be entirely informative in nature and shall not contain matter implying that it is normative. It shall clearly explain its relationship to normative aspects of the subject which are, or will be, dealt with in International Standards related to the subject. The Chief Executive Officer, if necessary in consultation with the technical management board, shall decide whether to publish the document as a Technical Report.

3.3.2 When the P-members of a technical committee or subcommittee have agreed upon the publication of a Technical Report, the draft report shall be submitted electronically by the secretariat of the technical committee or subcommittee to the Chief Executive Officer within 16 weeks for publication.

3.3.3 It is recommended that Technical Reports are regularly reviewed by the committee responsible, to ensure that they remain valid. Withdrawal of a Technical Report is decided by the technical committee or subcommittee responsible.

Technical Reports are not subject to systematic revision.

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4   Good practices

4.1   Consortia types

TC/SC/SyC WGs have over 750 liaison arrangements with over 200 organizations as of mid-2019. The IEC already has extensive liaison arrangements with industrial, professional, and

other organizations. These liaison arrangements may be with the external organization itself or with entities within a host external organization.

It is helpful to clarify the types of consortia that will be most interested in working with the IEC, keeping in mind that additional entities may be interested if the IEC expands and adjusts the services it offers.

Non-commercial (non-profit) consortia with no expertise or platform for standardization work in spite of the technical expertise of their members are of primary interest to the IEC for the expansion of its activities. Corporate or commercial, for-profit consortia also exist, but they are less prevalent. Commercial consortia tend to be associations of primarily suppliers whose direct aim is to sell products and/or services, and only develop standards in support of this objective. Representatives of commercial consortia are treated as any other stakeholder group of an NC. Professional and other organizations such as the IEEE and ASTM have the objective to create standards, and existing dual logo and other arrangements are already in place with some of them.

Of particular interest are non-commercial (non-profit) since these types of consortia tend to place less relative emphasis on classical standards setting than others and thus may have most interest in IEC standards platform and resources.

For many of the others, the product of their organization is the standard itself, and thus their "products" more directly overlap the work of the IEC. For example, standards in the rapidly evolving information technology (IT) sector are being developed by consortia such as W3C or OASIS, and these may not be good initial candidates for IEC standards services. Professional and other organizations such as the IEEE and ASTM have the objective to create standards, and existing dual logo and other arrangements are already in place with some of them.

4.2 Example practice: SC 65C – Bringing commercialized product standards to the IEC

4.2.1 SC 65C background

SC 65C currently has 40 liaison C agreements between its 6 WGs and 13 external entities. Typically, an external entity will have agreements with multiple WGs, and multiple external entities may cooperate together within a single WG. For example, SC 65C/WG 12 has liaison agreements with 9 external commercial consortia entities.

Many consortia work together to define a single standard, with any needed profiles added to address any differences. For example, SC 65C/JWG 10 (joint with ISO/IEC JTC 1/SC 25) *Industrial Cabling*, defines common wiring practices to support wiring for vendor products from 8 consortia. This allows industrial facilities to be prewired for maximum flexibility and provides a forum to align wiring approaches.

This practice is also followed by other SCs within TC 65. For example, Profibus International has liaison agreements with various WGs in TC 65, SC 65C and SC 65E.

4.2.2 SC 65C practice for commercial consortia

SC 65C follows the requirements of the ISO/IEC Directives directly. Liaison requests from consortia are received by the Secretary and distributed for vote to the P-members. When necessary, the Secretary assists the consortium in drafting the required letter of application. Upon approval by the P-members, they are forwarded to the IEC Central Office, which confirms that the consortium meets the requirements of the ISO/IEC Directives Part 1 subclause 1.17 and thereafter distributes the required document for approval by the SMB.

All work is carried out by a designated WG or MT under the leadership of an NC and P-member approved Convenor.

Reviews of the material are carried out according to the maintenance schedule, and this often requires the refreshment of participation by consortia. On such occasions, the Secretary issues a document for comment to the members and liaison organizations requesting input on

maintenance requirements. Note that in some cases consortia may identify urgent updates and these are treated in a similar manner with the potential issue of corrigendum or amendment.

Situations have arisen when consortia have merged with other consortia or have not been available for further support. New consortia have also applied to join the common effort between scheduled maintenance intervals. These situations have been addressed by decisions of the P-members. In some cases, a PAS has been issued to address urgent additions, pending the synchronization of the material into the common standards document, with the PAS then withdrawn.

At all times the TC/SC Officers ensure that all consortia are treated equally. This is essential to ensure continued consortia participation.

4.3 Example practice: TC 100 – Bringing existing specifications to the IEC

4.3.1 TC 100 practice

In the field of audio, video and multimedia technology, a fast-moving technology area, lots of consortia and fora develop their specifications, which are then implemented into products commercialized worldwide. TC 100 has been making efforts for faster and efficient standardization of mature specifications coming from consortia in accordance with the current ISO/IEC Directives and IEC Supplement:

- NP submission by TC Secretariat (ISO/IEC Directives Part 1 subclause 2.3.2)
- NP and CDV simultaneous circulation (ISO/IEC Directives Part 1 subclause 2.3.4)

As stated in 3.1 and 3.2, TC 100 Secretaries (Secretary and Assistant Secretaries) communicate directly with consortia. After the agreement to standardize their specifications as IEC standards, consortia representatives send a letter to TC 100 Secretaries to indicate their wish to standardize their specifications as IEC IS together with the specification documents. Usually their wish to establish category C liaison is included in the letter. TC 100 Secretaries investigate the letter with the TC 100 Chair and decide to circulate the NPs within the TC on behalf of the TC 100 Secretariat. When they circulate the NP, the Secretary requests the consortium and the NC where the consortium is based to nominate the Project Leader as an NC expert. After circulation of the NP, regular proposal stage process follows.

Before circulation of the NP, the consortium needs to prepare a draft specification using IEC document style according to ISO/IEC Directives Part 2. If needed, the IEC Central Office may be involved to provide conversion work from the consortium specification to the IEC template.

When a consortium wishes faster standardization and the TC agrees, NP and CDV can be circulated simultaneously in accordance with the IEC Supplement of the ISO/IEC Directives Part 1 subclause 2.3.4. To evaluate the maturity of consortia specifications, TC 100 uses its Advisory Group on Management (AGM), which is a standing group in TC 100 composed of TC Officers, Technical Area Managers (equivalent to SC Chairs), Technical Secretaries (equivalent to SC Secretaries) and the IEC Technical Officer, to discuss and recommend operational issues to TC 100. Evaluation is conducted for 4 weeks using a template document in which the summary of the consortium, standardization structure, standardization process and product implementation situation are described. If there are no objections to apply NP and CDV simultaneous circulation after the evaluation period, the Secretary circulates the NP and CDV at the same time. Usually because of the translation period of 6 weeks, the NP will need to wait for CDV preparation.

The following figure illustrates the standardization flow for NP and CDV simultaneous circulation in TC 100.

Standardization flow
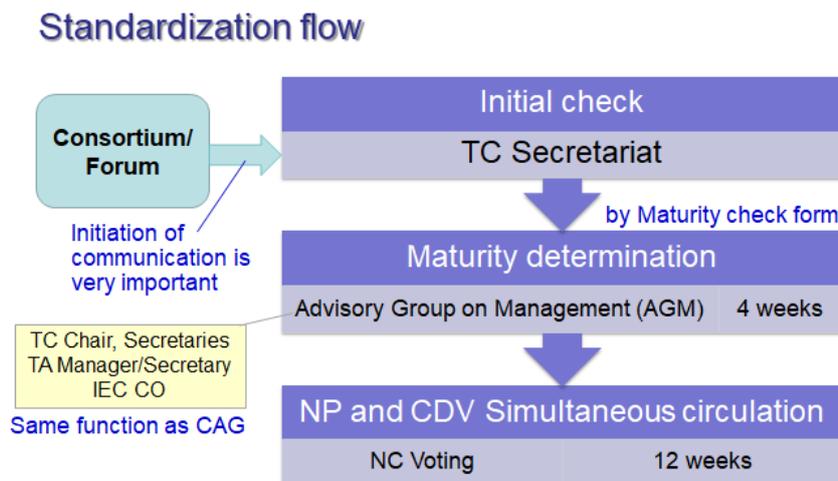
In general, a Chair Advisory Group (CAG) or other special groups would be able to take up the role of maturity evaluation as done by the AGM in TC 100.

TC 100 has developed several consortia and fora specifications including:

- IEC 62481 series: DLNA – Digital Living Network Alliance
- IEC 62680 series: USB – USB Implementers Forum
- IEC 62766 series: OIPF – Open IPTV Forum
- IEC 63028: Airfuel Alliance
- IEC 63035: MIDI (Musical Instrument Digital Interface) – MIDI Manufacturers Association

4.3.2 USB (Universal Serial Bus)

As introduced above, TC 100 has been standardizing USB data and control interface specifications developed by the USB Implementers Forum (USB-IF). The trigger for this activity was the European standardization mandate for supporting interoperable charging of mobile phones based on the USB Micro-B technology and related USB specifications. At that time, the IEC Central Office suggested to standardize the USB Micro-B interface as an IEC standard in TC 100. The TC 100 Secretary negotiated with USB-IF and finally TC 100 succeeded in establishing a relationship with USB-IF for standardization of core USB interface specifications adopted globally. USB-IF requested that the IEC accept that copyright still be held by USB-IF and publish the IEC standards precisely identical to the original USB specifications. In this case, the IEC Central Office and USB-IF have signed an MoU for this special arrangement.

4.3.3 DLNA (Digital Living Network Alliance)

DLNA is a consortium for specifying home network interoperability guidelines by referring to existing various specifications and promote home network applications in the area of multimedia content. A typical use case of home network is content sharing between different consumer devices and across any room in the home. The consortium had more than 200 audio-visual and IT member companies worldwide and created the world's largest connected home product ecosystem with nearly 4 billion units certified across more than 25,000 device models over a 13-year period. DLNA was dissolved in 2017 because the development of the specifications was finished and certification work was transferred to SpireSpark International, Inc.

In the area of home network applications, there were several initiatives at the beginning of 2000's. As many industry members of TC 100 national mirror committees were also members of DLNA, TC 100 communicated with DLNA through the consortium's member companies. As of 2017, TC 100 had published 13 international standards based on the DLNA guidelines.

4.3.4 MIDI (Musical Instrument Digital Interface)

MIDI is well known as the de facto standard used in musical instrument interfaces all over the world. However, there are similar but not identical specifications in some countries. MIDI

specifications were jointly developed by the Association of Musical Electronics Industry (AMEI) in Japan and the MIDI Manufacturers Association (MMA). As the Japanese government and Japanese NC were concerned about the upsurge of counterfeits of MIDI specifications, they encouraged MMA to standardize the MIDI specifications through the IEC. As transposing all MIDI specifications into IEC standards was a too heavy work, they decided to standardize the essence of MIDI specifications as an abridged edition. TC 100 utilized NP and CDV simultaneous circulation. MMA wanted to keep ownership of the copyright; therefore, they signed an MoU with the IEC in the same way as the USB-IF. The referred standard is IEC 63035:2017 – MIDI (Musical Instrument Digital Interface) Specification 1.0 (Abridged Edition, 2015).

4.4 Example Practice: TC 113 - Standardization for Emerging Technologies

4.4.1 TC 113 practice

To facilitate faster adoption of emerging technologies, it is essential to develop consensus based international standards for defining and testing of materials, processes, subsystems and pilot products. Without such standard testing and certification, it remains difficult to integrate the quality of supply chain outputs for a scale-up manufacturing of products for commercialization. purchase these materials with consistent quality, which hinders their broader use in industrial large-scale fabrication.

Nanotechnology is one such emerging technology originating from the control of matter at the atomic scale that impacts every product and market sector. A nanomaterial with extremely high potential especially in the electrotechnical industry is graphene, a monolayer of carbon atoms arranged in a honeycomb lattice. Due to its extraordinary conductivity and high transparency combined with high mechanical strength and flexibility this material is often taken as an example in connection with the "More than Moore" philosophy.

With worldwide interest in some of the new and emerging technologies, several consortia in the form of research networks, social innovation hubs are being formed with substantive private and government investments. The members of such consortia come from a variety of disciplines but most of them have only limited experience in standardization. To accelerate and improve the effectiveness of innovations by this type of consortia, the IEC TC 113 Nanotechnology Electrotechnical Products and Systems/WG 8 Graphene Materials has piloted a project to support Graphene Flagship research program network in Europe, consisting of 210 partners and associated members from 23 countries. This has increased the number of technical experts participating in the WG projects and broadened the country involvement in the TC, while increasing the consortia visibility in standardization activities.

Focused standardization workshop sessions, inviting thought leaders for special discussions and outreach on standardization activities via international conferences have played a major role here in bringing stakeholder communities together.

Currently there are many projects initiated by consortia in TC 113/WG3. These projects are very innovative, and the technical expertise of the consortia is excellent, augmenting the quality of the deliverables.

5 Summary

This document provides TC/SC/SyCs with guidelines on how to cooperate with consortia, including good practices. The important thing is that the collaboration must be a win-win relationship for both the IEC and the consortium.

Annex: Frequently Asked Questions

How can my TC/SC/SyC establish a C liaison agreement with a consortium?

Establishing a C liaison with a consortium requires that it complies with a set of conditions defined in the ISO/IEC Directives Part 1 subclause 1.17. A summary is also provided in 3.2.2. The procedure must be initiated by the consortium, by their issue of a letter to the IEC. The Consortia Facilitator or a TC/SC/SyC Officer can assist the consortium in initiating the liaison agreement.

Can my TC/SC/SyC seek collaboration with any consortium (i.e. are there particular restrictions such as for instance a consortium operating within a given country only)?

The conditions or restrictions are those defined by the ISO/IEC Directives regarding the establishment of a C liaison, as summarized in 3.2.2. It is of course expected that the consortium has a technical scope that fits current or foreseen standardization or conformity assessment activities of the IEC. If a TC/SC/SyC is willing to interact with a consortium having predominantly a national scope, it is recommended that the TC/SC/SyC Officers consult first with the NC where the consortium is located and operates.

What if a consortium is just starting to work on standards, can we work with it from the beginning?

Yes, the liaison C agreement does not need to specify a document to be converted into an IEC document, it can simply identify an area of common interest where a future IEC and consortium deliverable would be useful. In this case the liaison agreement can be established and a PWI (see ISO/IEC Directives Part 1 subclause 2.2) initiated to register the cooperative work into the work programme. The results of this work may be an NP for a normative deliverable, or a TR.

May I share TC/SC/SyC or WG documents with a consortium?

TC/SC/SyC and WG documents can only be shared with experts registered to the corresponding WG, MT or PT. These must be from an approved liaison C consortium or experts endorsed and nominated by a P-member of the TC/SC/SyC.

May I share an IEC publication with a consortium?

A watermarked copy for exclusive use in the TC/SC/SyC work can be requested from the IEC Central Office and shared with a consortium if a liaison C with that consortium is in place.

May I have one of my WG Convenor, PT Leader or MT Leader coming from a consortium?

No, such positions are filled by experts coming from a P-member of the TC/SC/SyC and are not open to liaison representatives. In such situations, it is recommended that the corresponding expert approach his/her NC to become nominated as an NC expert.

Can my TC/SC/SyC have Joint Working Groups (JWG) with a consortium (similarly to what can be done with ISO)?

No, collaboration with a consortium needs to go through a liaison C arrangement. Note that the IEC has dual logo agreements with some organizations, and these may support the establishment of JWGs.

How can a consortium specification be published by the IEC?

There are different ways a specification coming from a consortium can be published as an IEC deliverable. A summary of the various options is provided in 3.4.

Which IPR rules apply when adopting a consortium specification as an IEC deliverable?

The policy that applies is the common IEC/ISO/ITU patent policy as described in http://www.iec.ch/members_experts/tools/patents/patent_policy.htm. For further information or more complicated cases, please consult with the Consortia Facilitator.

Which copyright rules apply when adopting a consortium specification as an IEC deliverable?

Applicable copyright rules are described in the ISO/IEC Directives Part 1 subclause 2.13. Additional information is also provided in the ISO/IEC copyright brochure that can be found at http://www.iec.ch/about/brochures/pdf/about_iec/iso_and_iec_copyright_brochure.pdf. For further information or more complicated cases, please consult with the Consortia Facilitator.

How does the maintenance of consortia specifications published as IEC deliverables work within the IEC?

The maintenance of IEC deliverables is the responsibility of the relevant TC/SC/SyC. Please contact your Technical Officer for additional information or support.

Does the IEC need to establish a Memorandum of Understanding (MoU) to collaborate with a consortium?

MoUs are only established for particular cases where collaboration may need to go beyond a traditional liaison mechanism or when specific provisions or constraints need to be considered. Please contact the Consortia Facilitator for further information and assistance.

How can my TC/SC/SyC terminate a collaboration with a consortium?

According to the ISO/IEC Directives Part 1 subclause 1.17.1, TC/SC/SyCs shall review all their liaison arrangements on a regular basis, at least every 2 years, or at every TC/SC/SyC meeting. On such occasions, the TC/SC/SyC should decide whether ongoing collaboration should be continued or not.

Who can I contact at the IEC Central Office if I need more information or assistance on matters related to consortia?

The Consortia Facilitator can be reached at consortia@iec.ch.