



**SG13/047A/INF**

## **Guidelines for IEC National Committees Working with Consortia**

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## **WORKING WITH CONSORTIA**

### **Guidelines for IEC National Committees**

#### **EXECUTIVE SUMMARY**

This document provides the IEC National Committee members (NC) with guidelines on how they could be a part of the value chain in working with consortia. The IEC views the partnership and cooperation with consortia as a win-win situation for all parties. The IEC Strategic Plan acknowledged this role and identified the need to further facilitate consortia participation.

As the only legitimate representative of the IEC in the country where a consortium belongs to, NCs can effectively exercise their obligations to represent their needs at the global level in the IEC. With the IEC platform for partnership guaranteeing full transparency and openness of the standardization process, and with their own unique expertise and experience, the NCs have opportunities to co-design innovative solutions to collaborate with external organizations. The pathways to support the standardization needs of consortia include but not limited to those demonstrated in the Example Practices presented in this guideline document. What is needed throughout the process of working with consortia and creating a win-win situation for all is flexibility and good judgement on the part of all concerned as every case and situation with a consortium may be unique requiring customized solutions.

The IEC Consortia Facilitator assists in establishing communication between all parties, review potential liaison arrangements, or provide advice regarding bilateral cooperation.

## 1 Introduction

The IEC has been entering into liaison arrangements with industrial, professional, and other international consortia for many years. These arrangements have facilitated the development of many important international standards. Today, IEC committees have over 750 working relationships with over 200 such organizations.

These arrangements also benefit the IEC National Committees (NC). They bring to the forefront the key role played by NCs in standardization and conformity assessment activities thereby promoting membership in NC mirror committees.

International priorities for social change, including work on climate change and sustainable development, has also led to the establishment of new international not-for-profit consortia. In many cases these consortia are directly supporting international agreements supported by IEC member governments. These new consortia will frequently depend upon standards to support their work. For example, standards related to carbon footprints, the assessment of “green” fuels, energy efficiency, and product environmental stewardship will be essential to define and measure societal progress. Many governments publish declarations and plans related to their own sustainability goals, and standards support provided by the IEC can provide important assistance to NC member governments.

Thus, in addition to support to consortia, the IEC, through its NC members, can highlight to NC governments their role in promoting these new international social priorities to address climate change and sustainable development.

With the rapid pace of digital, technology and societal changes, the framework of a consortium has been expanding beyond its industry and professional members to include other entities such as academia, government, and 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. A consortium essentially 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, shortens time to commercialization of new technologies and offers a compelling competitive advantage in the marketplace. Pooling of resources among its members drives the kind of transformational change that individual organizations struggle to achieve on their own.

With its regional, national, or global reach and member base, a consortium can be described as a collective consisting of stakeholders usually working or operating in many different countries. This is of particular interest to the NCs leading to a direct benefit of increasing their national brand awareness within the global community. Recognizing the very important role that “consortia” play in the development of standards and their worldwide adoption and use, working with consortia will further strengthen the NC brand and leadership.

The IEC believes that increased partnership and cooperation with consortia will benefit National Committees (NC) in many ways, some of which are given below:

- Consortia members will gain a better understanding of the importance of NC mirror committee participation thus leading to increased support for NCs.
- Wider participation by more consortia, including new international not-for-profit, and academic consortia, will increase the visibility of NCs to these organizations and assist NCs to contribute to these international efforts.
- Greater participation of NC members via the IEC in consortia work will ensure their trade interests are extended to work within consortia and their input is taken properly into account in the standardization and conformity assessment work.
- Consortia are usually working in new and developing technologies and NC might therefore benefit in identifying national consortia representatives for emerging technologies, for example, in response to national mirror committees of any newly established IEC committees and sub-groups.
- Consortia representatives might also be used on national level to identify future market “gaps” for standardization needs.

- Increased focus in future on system aspects and interoperability makes the standardization work a more natural extension of consortia activities for making their products fitting into the system and this creates new possibilities for NC to work with consortia partners.

This document has been developed to provide IEC National Committees (NC) with guidance to foster partnership and collaboration with consortia based on the market demands. Identification and engagement of consortia stakeholders will be the responsibility of the entire IEC community; the NCs provide the management expertise and send experts to represent national needs in the global IEC standardization and conformity assessment arena; the technical committees (TC) define the scope and extent of collaborative work with consortia; the IEC offers a neutral, independent international forum for such collaboration. Therefore, sharing of information and best practices through an open and transparent communication is encouraged at all levels. What is needed throughout the process of working with consortia is flexibility and good judgement on the part of all concerned.

## **2 Benefits for IEC National Committees (NC)**

### **2.1 Increased local membership and support**

Consortia are often found in the non-profit sector. Corporate, for-profit consortia also exist, but they are less prevalent. 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. Examples include academic networks, national research and innovation program networks, fully volunteer consortia, social innovation hubs, consortia such as IETF, Bluetooth SIG, EWICS, GFSC, Breakthrough Energy and MacArthur Foundation, among others.

The consortia by becoming a member of NC will gain a better understanding of the importance of NC mirror committee participation thus leading to increased support for NCs. The IEC Directives require consortia member participation in NCs for developing IEC normative deliverables; NC's national level expert roster, therefore, increases thereby enhancing national level balloting of standards documents. It broadens the country involvement to identify, nominate and engage consortia experts.

### **2.2 Increased NC representation in the global stage**

Wider participation by more consortia, including new international not-for-profit, and academic consortia, will increase the visibility of NCs to these organizations and assist NCs to contribute to these international efforts. Greater participation of NC members via the IEC in consortia work will ensure NC member trade interests are extended to work within consortia and NC member input is taken properly into account in the standardization and conformity assessment work. As the inputs become part of IEC deliverables, NC member countries will gain fast track access to a wide global market.

### **2.3 Opportunities to assist local innovators in emerging technology areas**

The NCs benefit from “mirroring” new IEC committees and sub-groups targeting emerging technology areas by recruiting national consortia representatives. Consortia can often respond more quickly to market opportunities made available due to rapid technology advances. By channelling their support to increased local membership of these consortia, NCs can effectively address the needs of emerging sectors, and help their innovators shape the industry.

Enhancing the ability and speed to standardize technologies is essential for commercializing new innovations. This will also ensure that they continue to fully cover the technologies within their scope and life cycle and maintain the IEC brand as the leading provider of electrotechnical standards. Working with consortia is an enabler in this requirement.

## **2.4 Advancing NC national economy through standardization speed and efficiency**

Consortia specifications are usually recognized as de facto standards with broad market adoption. Incorporating these specifications into the IEC deliverables will increase the standardization speed. In addition, as the committee experts and consortia experts come from the same company, a faster international standardization process can be beneficial to the company.

Therefore, NCs can derive a maximum national economic impact by leveraging their standardization efforts by:

- increasing their level of participation in developing and adopting the specifications via accrediting consortia experts originating from their countries
- and/or opting to send experts to areas of consortia partnership projects of interest to them.

## **2.5 Benefits of a systems approach to outreach and implementation of standards**

NC members will have an increased access to consortia activities related to product standard implementation and outreach. Increased focus in future on system aspects and interoperability further makes the NCs a more natural cooperating partner for consortia for making their products fitting into the product/technology system. This often creates new possibilities for NCs to work with consortia partners.

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. NCs 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.

Focused standardization workshop sessions, inviting thought leaders for special discussions and outreach events on standardization activities via conferences and joint symposiums can also play a significant role in bringing stakeholder communities together, both at the national and international levels.

With a critical role to play in support of national consortia, these activities can effectively bring together NC member countries active economically in upstream or downstream value chain of technologies. Countries are becoming increasingly interdependent for their trade and realizing the full economic and social benefit of emerging technologies. Island solutions are no longer acceptable.

## **2.6 Key enabler of the NC and IEC Strategic Plans**

Recognizing the importance of strategic plans in promoting economic growth, NC members may have their own strategies and essential actions covering the mobilization of standardization efforts in support of many declarations and plans related to integrated health systems, climate change, sustainability development goals, cyber security and others. Standards support provided by the IEC can provide important assistance to NC member governments on these strategic areas. Increased cooperation with consortia may therefore directly benefit NCs for an effective and efficient implementation of their strategic plans. This will be in addition to what IEC Strategic Plan has identified as a need for better coordination with consortia.

Working with consortia is seen as an opportunity where the IEC, NC members and the consortium will benefit as each brings its unique capabilities to the table. 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. NCs provide their management expertise in nominating experts to represent the national needs and facilitate their participation in the standardization work. Thus, consortia cooperation at all levels will create a “win-win” situation.

### **3 Working with consortia**

#### **3.1 Concepts**

##### **3.1.1 Consortia**

A consortium is an organization external to IEC. It is a group of two or more entities working together to achieving a common objective. There are consortia in many sectors and industries. The entities that participate in a consortium could be industries, government, academic institutions, funding agencies, investment and consumer groups, individual professionals and other stakeholders supporting and contributing to the common goals of the consortium. It can be regional, national, or global in its reach and members. It is distinct from a joint venture in that the entities are independent in their day-to-day operations, but collectively contribute to the growth of the sector.

Consortia of interest to IEC are those whose entities require to collaborate formulating standards for manufacturing, product performance, safety, compatibility and more. Consortia may or may not have the expertise in standardization work. They must be a not-for profit organization.

All current and existing consortia/organisations/associations/groups that interact with IEC will not be part of this initiative. Refer IEC current [global partnerships](#)

##### **3.1.2 Consortia Facilitator**

The Consortia Facilitator ([consortia@iec.ch](mailto:consortia@iec.ch)) is an IEC Central Office staff member, or members, who can assist consortia in:

- Connecting the consortium representative to relevant NCs or IEC Central Office appropriate
- Identifying the optimum TC/SC/SyC to address the work with consortia
- Connecting the consortium representative and negotiating any necessary arrangements with the target TC/SC/SyC
- Providing ongoing advice and support to both parties on potential collaboration and processing their liaison request where applicable.

For consortia having no experience with IEC standardization, the role of the Consortia Facilitator can be very central, broad and versatile. 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 is recognized that the Consortia Facilitator discusses 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, TC/SC/SyCs will need to identify P-member NCs that are willing to accept the work.

##### **3.1.3 Consortia Member/Representative**

An individual member of the consortium, who conveys the interest of the consortium to NCs, TC/SC/SyC officers, Consortia Facilitator, and/or IEC CO. The consortium member/representative is the “client” face of IEC-Consortia interaction. The Consortia Member/Representative may be the leader of the consortium, or a person appointed by the leader for the purposes of communication with IEC, or may even be an expert who could act in a personal capacity to contribute to the standardization project.

### 3.1.4 Platform for Partnership

The neutral, independent international forum offered by IEC, wherein globally renowned experts from industry, government, academia, and user groups can sit together and find consensus on solutions to broad technical challenges. This together with the support system and governance structure for liaison with external organizations ([ISO/IEC Directives Part 1](#)) provides necessary infrastructure for scaling up the collaboration with consortia.

## 3.2 How to make contact

### 3.2.1 First contact

The first contact might be initiated by a consortium interested in working with the IEC. If the consortium is already familiar with IEC work programme, it may choose to contact TC/SC/SyC.

Alternatively, a member or expert from a TC/SC/SyC may contact the consortium. 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.

If the consortium is aware of the standardization work in their region or nation, it could contact NC directly for advice on their needs. Alternatively, when a NC identifies the needs of a consortium based on their normal business analysis, they could make the consortium aware of the service by IEC and their role in supporting the same for the benefit of the consortium.

In all scenarios, the “Consortia Facilitator”([consortia@iec.ch](mailto:consortia@iec.ch)).assists in establishing communication between parties, review potential liaison arrangements, or provide advice regarding bilateral cooperation.

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

The different pathways for contact and communication between parties are given in Figure 1.

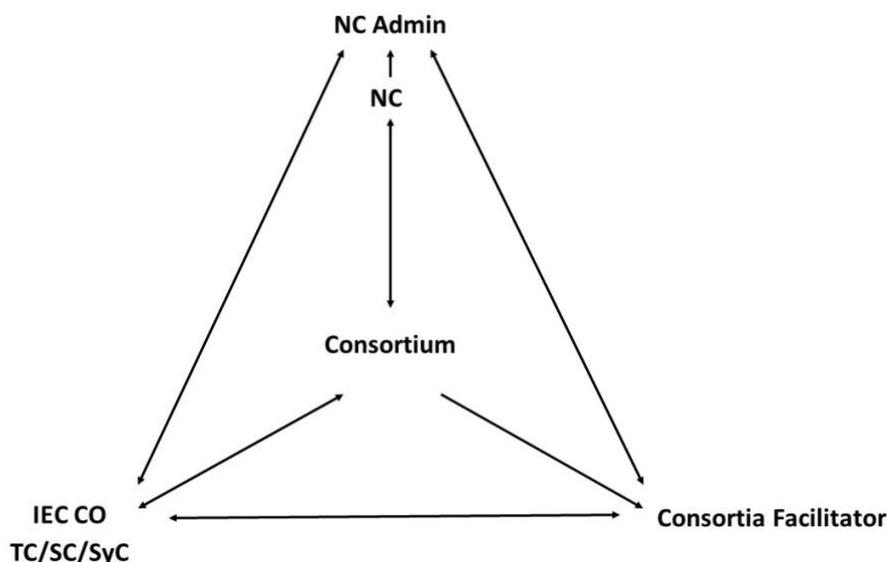


Figure 1

### 3.2.2 Handling NC and 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 requires assistance in responding to consortia enquires, contact should be made with the Consortia Facilitator. The Consortia Facilitator then discusses potential collaboration work with TC/SC/SyC Officers and attempts to identify the optimum path forward.

Similarly, a NC may have an interest in supporting the standardization needs of a consortium in their region, a party which may not satisfy all the requirements of ISO/IEC Directives. Contact should then be made with IEC CO or Consortia Facilitator. Together with the inputs from TC/SC/SyC Officers, the Consortia Facilitator can help identify the options for the consortium and NC.

### 3.3 How to organize information exchange

#### 3.3.1 Basic information

Where the consortium needs could be linked to TC/SC/SyC activities, 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 representative(s) 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<sup>1</sup> 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 3.3.2) if applicable<sup>2</sup>
- 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

Where the first contacts are made between NC and a consortium, it is recommended NC consults with the IEC Central Office and/or the Consortia Facilitator for path forward.

#### 3.3.2 Liaison C mandatory requirements

Liaison C requirements are outlined in [ISO/IEC Directives Part 1](#) subclause 1.17. In short, a liaison C organization must:

- Meet 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

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<sup>1</sup> 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.

<sup>2</sup> 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.

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).

### 3.3.3 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 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.

### 3.4 How to engage consortia for participation 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

### 3.5 Options to publish consortia documents within the IEC

There are three (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 3.5.2.2 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 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](mailto: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.

### 3.5.1 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 Part 1](#) Section 2.3 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.

### 3.5.2 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.

#### 3.5.2.1 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 ([ISO/IEC Directives Part 1 - IEC Supplement](#) subclause 2.3.4). 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](#).

*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 - IEC Supplement](#)

2.3.4

...

*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.*

### **3.5.2.2 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 3.5.1.

*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.*

### 3.5.3 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.*

## 4 Good practices Guide

### 4.1 Consortia types and why NCs should enable their participation

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.

The evolution of the framework of modern-day consortia offers additional opportunities to further increase the role of NC in:

- Ensuring the growing needs of its emerging social and technology trends are addressed in a timely manner to gain fast track access to global markets
- Broadening the country involvement in TCs to identify, nominate and engage consortia experts
- 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

## **4.2 Example Practice – Bringing commercialized product standards to the IEC (SC 65C *Industrial Networks*)**

### **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 may have agreements with multiple WGs, and/or multiple external entities may cooperate 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 *Industrial-process measurement, control and automation*. 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 working with 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 [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 – Bringing existing specifications to the IEC (TC 100 Audio, video and multimedia systems and equipment)**

#### **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:

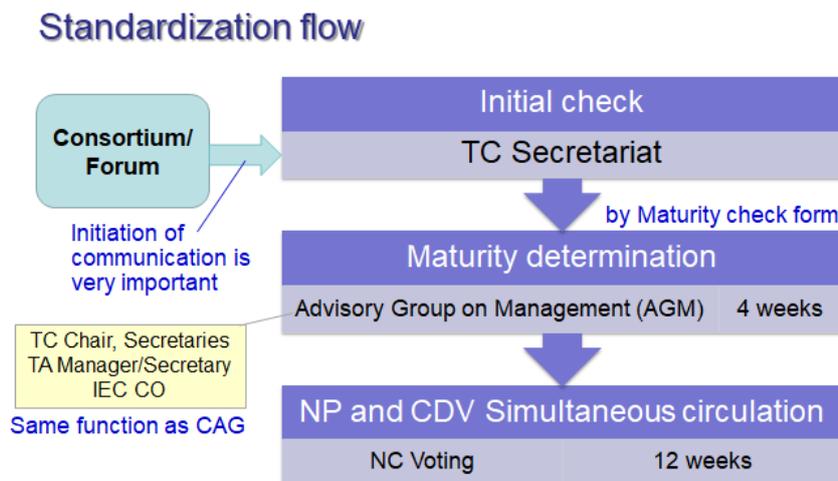
- NP submission by TC Secretariat ([ISO/IEC Directives Part 1](#) subclause 2.3.2)
- NP and CDV simultaneous circulation ([ISO/IEC Directives Part 1](#) subclause 2.3.4)

The Secretary and Assistant Secretary of TC 100 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 Directive 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 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.



**Figure 2**

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

As every case and situation with a consortium may be unique requiring customized solutions, TC 100 followed flexible approach to design solutions for the consortia. Some details of these approaches are provided below.

#### **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 – Standardization for Emerging Technologies (TC 113 *Nanotechnology for electrotechnical products and systems*)**

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.

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 NC 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 several 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.

#### **4.5 Example Practice – Interoperability of Medical Devices and harmonization (TC 62 *Electrical equipment in medical practice*)**

In the area of medical devices, many different stakeholders including manufacturers, healthcare providers, clinicians, or regulators contribute to the development of international medical standards. When appropriate and to ensure that international healthcare standards fit seamlessly together, IEC technical committees cooperate with other committees of the IEC, ISO, WHO, and other organizations, based on the expertise each organization embodies. For the purposes of using consortia standards for interoperability issues, TC 62 and subcommittees work with consortia Continua, MITA, HL7 and IHE. These are not necessarily dealt with as formal C-liaisons. However, in SC 62B and SC 62C, TC 62 has a formal B-liaison with DICOM, a consortium started in 1980 with a manufacturers group and grown to including users, such as

radiologists and hospital physicists. DICOM specifies data formats for imaging and communication in medicine and how images are displayed.

The TC 62 committee relationship with International Medical Device Regulators Forum (IMDRF) as a formal Liaison A partner is another example of the need for choosing appropriate pathways to cooperate with consortia. The IMDRF is not an industry consortium per se, but uses similar methods for the international medical device regulatory harmonization and convergence by operating as a forum of voluntary medical device regulators from around the world who have come together to build on the strong foundational work of the Global Harmonization Task Force on Medical Devices (GHTF). The activities of the forum are fully supported by the medical industry.

## **Annex: Frequently Asked Questions**

### ***What are the benefits for our NC and consortia to work collaboratively?***

NC, consortia, and IEC experts share insights to stay ahead of trends and anticipate future market developments. There are different ways for working or liaising with the IEC. Liaison always operates in both directions, with suitable reciprocal arrangements.

Some consortia collaborate actively with working groups, maintenance teams or project teams. Others prefer to gain simple access to reports on the work of a technical committee or subcommittee that NC is part of.

IEC by its neutrality could mitigate the influence of dominant technology players in the sector of interest to the consortium. This also provides the consortium a tool for marketing and promotion to develop their specifications into an International Standard that will enjoy wide market adoption.

A cooperation with the IEC via NC strengthens the consortium in many ways and gives them a globally recognized footprint. NC could leverage these perceived values to actively recruit, engage and support local innovators.

For more details on the benefits for consortia, refer [Guidelines for Consortia](#)

### ***How does the NC evaluate a consortium for their best fit into a particular IEC TC/SC/SyC?***

The IEC has also identified a specific “Consortia Facilitator” ([consortia@iec.ch](mailto:consortia@iec.ch)) who is ready to provide assistance to you, including guidance in identifying specific IEC Committees most relevant to the consortium needs and pathways to jump-start the partnership activities. An initial consultation with the Consortia Facilitator may clarify the options available to you, whether you are a P-member or O-member. NC’s expert input advice will also expedite the process.

### ***What if the NC is not a member of the “best-fit” TC/SC for the consortium needs but still wishes to engage them?***

Consultation with IEC CO and Consortia Facilitator are recommended. You may also explore your own options of becoming a member of that TC/SC.

### ***As a member of TC/SC/SyC could a NC 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 3.3.2. 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. It is recommended that the NC consults with Consortia Facilitator and TC/SC/SyC Officers who will then initiate the procedure for the type of the liaison and liaison agreement.

### ***Can the NC work with a consortium if it already has an agreement with another SDO?***

Yes, collaboration with the IEC is possible.

### ***How are the intellectual property rights (IPR) of a consortium specification respected?***

For the purposes of partnership, the IEC has different models for cooperation agreements and the details of the arrangements arising from 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, we have designed a [publicly available specification](#) which speeds up standardization in areas of rapidly evolving technology and generally responds to an urgent market need.

***May NC 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 NC 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.

***What if a consortium that NC has identified is just starting to work on standards, how should NC proceed?***

First step will be to consult Consortia Facilitator and TC/SC/SyC officers to set up the liaison.

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.

***How much does it cost for a consortium to participate in IEC work?***

The IEC does not charge any direct fee for participation of experts in its work.

NC need to nominate and accredit Expert members from the consortium to participate. It is NC's prerogative and business model to set up any additional fees to a consortium and its members.

***Could a consortium member/Expert be nominated for Convenor, PT Leader or MT Leader positions?***

Yes.

***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 3.5.

***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](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](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 NC need to establish a Memorandum of Understanding (MoU) to collaborate with a consortium?***

It is fully based on NC's business practices.

On the part of IEC, 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 NC 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. NC's decision will hinge on this as well. Assuming the collaboration is not continued, the NC may choose to set a support direction for the consortium.

***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](mailto:consortia@iec.ch).