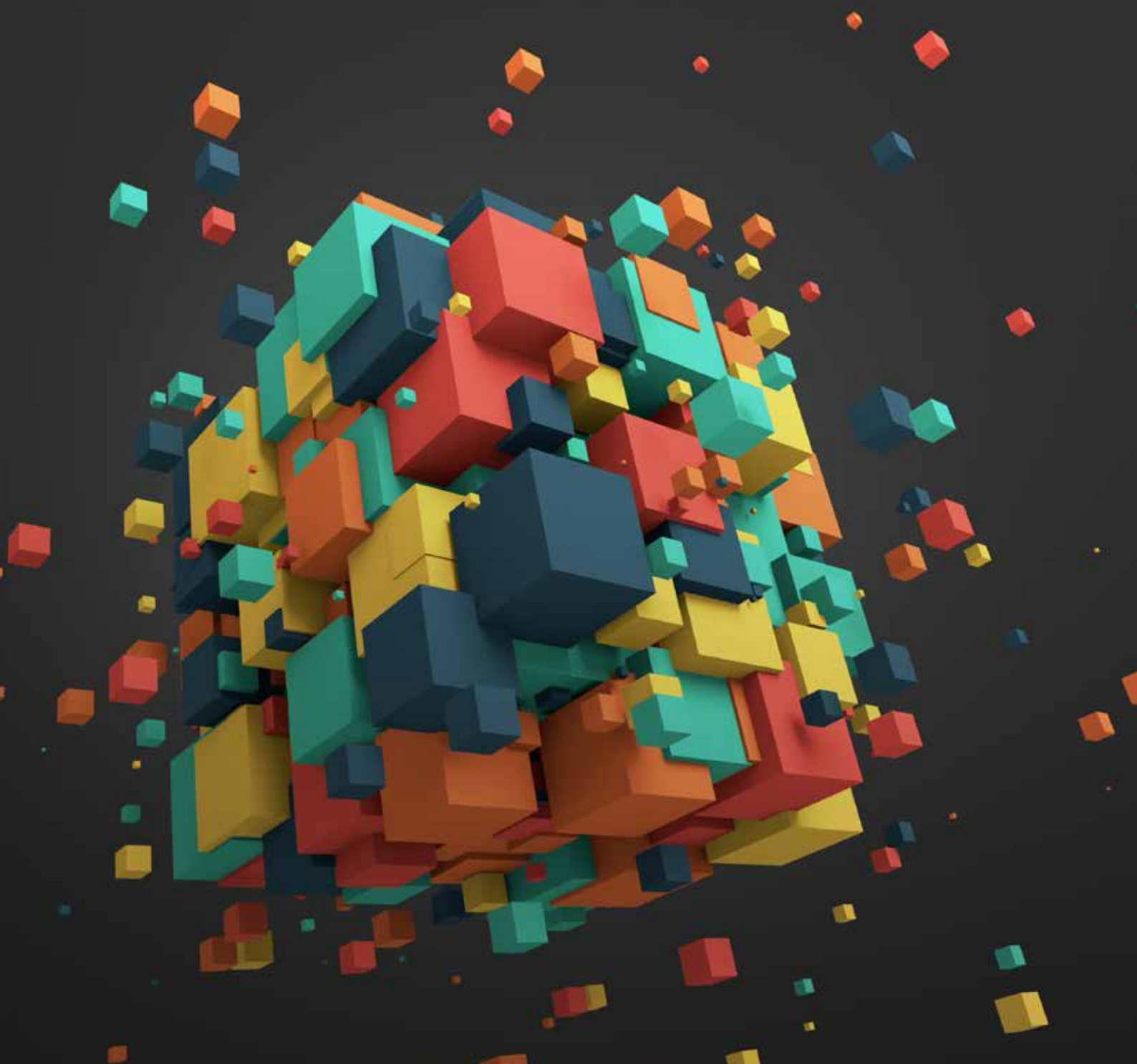




Activity Report

IEC General Secretary's Activity Report July 2019-June 2020

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1 Message from the General Secretary

As is the case each year, we have prepared a report for IEC members on the key activities undertaken by IEC Central Office (CO). Unlike other years, however, this one has proven to be quite exceptional.

In March 2020, the World Health Organization declared a global health emergency following the outbreak of the Covid-19 pandemic. Many countries introduced restrictions on public life and travelling which have resulted in major disruptions to business practices. I am happy to report, however, that the impact on the IEC has been limited as we continue to monitor the situation from a financial and operational perspective.

Core business activities as regards both standards development and conformity assessment have been maintained. The Technical Department has continued to actively support the various technical committees and working groups as they have transitioned to remote working. Effort has also been invested to closely track and follow-up on projects so as to avoid delays in the standards development process. The IEC Conformity Assessment Systems have held most of their management meetings online and extraordinary procedures have been put in place to secure service continuity.

At the IEC CO, including the IEC locations around the world, a number of steps have been taken to ensure staff safety and business continuity across all activities. Overall, the shift to remote working in IEC CO has not led to disruptions. To maintain strong contact with National Committees and partner organizations, IEC CO has converted planned visits and training sessions into remote meetings wherever possible. A pragmatic three-step plan for a gradual return to full onsite operations at IEC CO in Geneva is underway and we continue to monitor information and recommendations from local authorities.

As per the Administrative Circular AC/31/2020 of 9 September 2020, the IEC General Meeting 2020 will now be taking place in a reduced format consisting primarily of management meetings and, as a consequence of Covid-19, will be held in an exclusively virtual format.

To provide support to the medical teams and patients battling the Covid-19 virus and in coordination with ISO, the IEC has made several of its standards necessary for the development of critical care ventilators available free-of-charge and over 500 requests of the relevant IEC Standards have been processed by IEC CO. We are proud to be able to provide our contribution to the ongoing worldwide effort to combat this pandemic.

It is thus under very special circumstances that I took office and started my mandate as IEC General Secretary & CEO. During this difficult period, I have been inspired and heartened by many personal encounters, by the demonstration of togetherness and by the will power of the IEC community to stay the course without losing sight of the challenges ahead of us. We are living in a world that is in pursuit of digital transformation and in search of sustainability. This world needs expertise, contributions and solutions from IEC which enable society to reap the benefits of technology more than ever. I am very honoured to serve this unique organization and, with the entire team at the IEC CO, we will do our utmost to support you in your future endeavours.

2 Introduction

This report provides key information about the activities undertaken by IEC CO from 1 July 2019 to 30 June 2020.

The four strategic goals of the IEC, as detailed in the Masterplan, serve as the basis for the report's structure:

- Market and societal relevance
- Sustainable business model
- Flexible organization
- Agile operations

The key activities have been grouped based on how they pertain to each of these strategic goals.

The report also provides an overview of the IEC financial situation as well as an update on the IEC Masterplan implementation plan, activities of the IEC Conformity Assessment Systems and IEC Standards production.

3 Market and societal relevance

3.1 Responding effectively to market and society needs

The IEC is strengthening its capacity to identify and respond to emerging and potentially disruptive technology developments, as well as to market and social trends.

3.1.1 Roadmap of key topics

The identification and response to emerging technology developments is led by the Market Strategy Board ([MSB](#)), Standardization Management Board ([SMB](#)) and Conformity Assessment Board ([CAB](#)).

3.1.1.1 Market Strategy Board

Market watch

The MSB market scanning task force is responsible for market watch activities and ensuring that the IEC responds to industry and societal needs in a timely manner.

MSB conference

The fourth annual MSB conference was held as part of the IEC General Meeting 2019 in Shanghai, China. The half-day workshop encompassed three themes which are forecasted to have an impact on future standardization needs of the IEC: *2030 and the IEC*, *Infrastructure resilience and climate change* and *Cybersecurity – coordinating security standards for the industrial internet of things*.

MSB research

The MSB continues to identify high-level technology trends and publishes one or more IEC White Papers each year. In October 2019, MSB published [Semantic interoperability: challenges in the digital transformation age](#). The publication was released with a flyer to all GM 2019 participants and a print version was made available to all IEC members and governing bodies.

Work is underway for the next IEC White Paper, *Safety in the future*, which includes representatives from CAB and SMB.

Societal and technology trends

The MSB restructured its strategic approach to identify societal and technology trends for the IEC as part of its role defined in the IEC Masterplan implementation plan. Influenced by member discussions from a “backcasting” viewpoint, the [Special Working Group 8: Societal and technology trends](#), was set up in January 2020, to act as a strategic source to identify, collect and analyze information on societal and technology trends that could influence market strategy for the IEC over the next seven to ten years. It also examines the changing requirements for standardization (i.e. a network for business), beyond the scope of SMB and CAB, and concentrates on how the IEC should move forward in the “future society” as a leading standards development organization.

3.1.1.2 Standardization Management Board

Technology monitoring

[Strategic Group 11](#): Hot topic radar, supplements the MSB long-term market view in identifying key emerging technologies. In assessing those technologies, SG 11 takes a pragmatic approach to classify which ones have a more immediate need for standardization activity. A first list of technologies has been submitted to the SMB for review.

Sustainable Development Goals

[ad hoc Group 84](#) set up to educate and motivate the IEC community about how the work of the IEC addresses the [United Nations Sustainable Development Goals](#) (SDGs), delivered its final report and recommendations in June 2020.

The SMB approved the recommendations which include the identification and promotion of the SDGs in IEC work, the implementation of updated IEC templates that can highlight how the IEC impacts the SDGs, the development of a communications plan to engage IEC stakeholders and the creation of a permanent structure dedicated to the SDGs.

Future of digital transformation

The SMB has approved the draft *IEC digital transformation vision and strategy*, developed by [ad hoc Group 86](#), which is now being considered by the Council Board to develop a wider IEC strategy.

[Strategic Group 12](#) has developed the base classification model of machine-readable standards with a focus on the level of utility to machines, from paper form to fully machine interpretable form.

Code of conduct

The SMB has set up [ad hoc Group 87](#) on the code of conduct for technical work. As part of its scope, ahG 87 will review the current *IEC code of conduct for delegates and experts*, taking into consideration existing ISO and CAB guidelines in this area, to propose revisions and improvements that directly relate to the standards development work.

Covid-19 induced consequences

The SMB set up [ad hoc Group 88](#) which will review and assess the impact, including the opportunities, of Covid-19 on IEC technical work.

3.1.1.3 Conformity Assessment Board

Market opportunities

The New CA Services Radar identifies, as early as possible, potential opportunities for new global conformity assessment services. As with the existing IEC CA Systems which are market driven, the goal of any new global CA service is to provide value to its market sector and to reach sustainability as quickly as possible.

The CAB is critically aware that IEC CA services must respond to market needs and create value for the stakeholders within the sector of operation. IECQ is currently working with stakeholders to bring online a requested supply chain qualification certification scheme for the nuclear industry. This initiative follows from the IECQ experience in supply chain qualification for aviation.

3.1.2 Standards development systems approach: review of work

Newly emerging and continuously evolving technology domains, such as sustainable energy, automation, information, communication or mobility, represent new challenges for standardization. The IEC is exploring the complexity of these fields by adopting a holistic approach. The aim is to provide conditions that favour integration and interoperability for sustainability and quality of life.

Over the past year, the IEC has put in place new systems committees (SyCs) and standardization evaluation groups (SEGs) to face these challenges and enable the IEC community to better respond to these new standardization needs. They will play a key role in this rapidly changing context, where standardization needs to adapt and evolve accordingly.

The systems approach to standards development, fostered and promoted by the Systems Resource Group (SRG), is the leading methodology and approach to standardization in the systems committees and has guided development in the committee work. Today its potential goes beyond the systems committees and the SMB is considering repositioning it as part of the digital transformation effort.

SyC Smart energy continues to follow its systems engineering approach, engaging with IEC committees within the domain of smart energy, including TC 8, TC 57, TC 69 and TC 120. Its workshop in October 2019 highlighted various next steps and is complemented by the upcoming workshop in September 2020 entitled *Electric vehicles as distributed energy storage systems (EV-DESS)*. In 2020 SyC Smart energy published IEC SRD 62559-4, *Use case methodology – Part 4: Best practices in use case development for IEC standardization processes and some examples for application outside standardization*.

SyC AAL (active assisted living) published several new standards including IEC TS 63134, *Active assisted living (AAL) use cases*, IEC SRD 63234-1, *Economic evaluation of active assisted living services – Part 1: Framework*, and IEC SRD 63234-2, *Economic evaluation of active assisted living services – Part 2: Example of use – Monitoring patients with chronic diseases*. In this period, the reference architecture and architecture model of AAL were approved and will be published soon. SyC AAL also continues to address ethical considerations in the AAL environment.

SyC Smart cities has published its first international standard, IEC 63152, *Smart cities – City service continuity against disasters – The role of the electrical supply*, and is actively working on 11 projects. The IEC ISO ITU Joint Smart City Task Force has been established to ensure continuous coordination and cooperation where needed in this very challenging domain across the three leading SDOs.

In January 2020, SyC LVDC (low voltage direct current) organized the first LVDC forum for the IEC community to gather inputs and requirements from TCs and explore the requirements for LVDC harmonization. The project for electricity access has been approved for development. Various working groups on electricity access, use cases for LVDC distribution and parameters for protection and safety in DC address the horizontal interests of SyC LVDC. A new SRD project in the area of LVDC distribution has been approved and will be handled by a joint working group with TC 8.

SyC SM (smart manufacturing) has held two meetings, with its second meeting held alongside the IEC General Meeting, bringing together 70 participants. Three working groups (use cases & supporting IT tools, terminology, and navigation tools for SyC SM) have been established as has an advisory group on marketing, outreach and communications. The SyC SM Open Forum on smart manufacturing standards map (SM2), which brings together IEC and ISO, has begun developing ISO/IEC TR 63306-1, *Smart manufacturing standards map (SM2) – Part 1: Framework*, which has been recently approved for publication.

SyC COMM, the newly established systems committee on communication technologies and architectures, has announced its first plenary meeting for September 2020.

3.2 Bringing together all relevant stakeholders

The IEC continues to proactively strengthen its relationship with industry, the core contributor and user of IEC work, but also with regulators, international and intergovernmental organizations and academia.

3.2.1 Industry

Private and public sector industries contribute most significantly to IEC work. Not only does industry send the vast majority of technical experts to develop IEC International Standards but also represents the biggest customers for these standards and makes use of the IEC CA Systems.

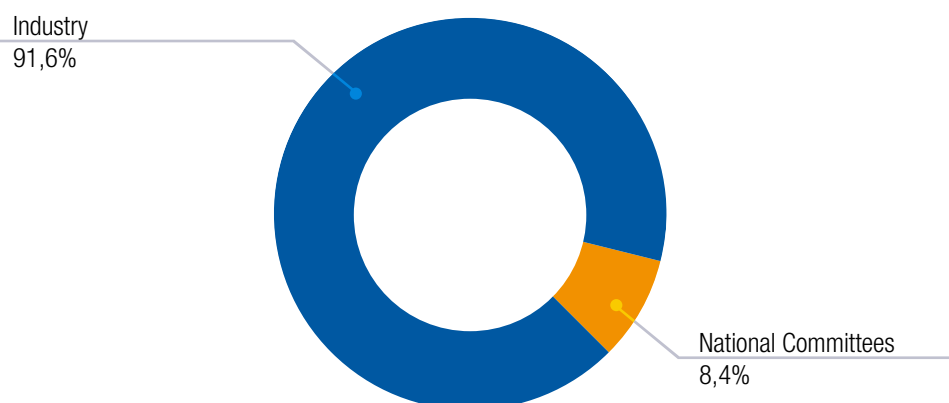


Figure 1 | TC/SC Officers' affiliation

3.2.2 Regulators

The IEC regularly presents its work to regulators and policy makers at events around the world, including at regional meetings of regulators. For further information on regional activities, please see the specific sections for each region.

3.2.3 Regulator forum

The IEC Regulator forum on medical devices, held alongside the IEC General Meeting 2019, highlighted how IEC Standards and Conformity Assessment Systems harmonize policy at regional and international level to support and facilitate trade, as well as to protect consumers against unsafe technology and counterfeit goods. The forum [report](#) provides a summary and key recommendations.

3.2.4 International and intergovernmental organizations

INetQI

The International Network on Quality Infrastructure ([INetQI](#)), established in 2018 with 12 founding members (BIPM, IAF, ILAC, IEC, ISO, ITC, ITU, OIML, UNECE, UNIDO, WTO and WBG) has as its vision An effective quality infrastructure implemented worldwide. Two meetings were held in 2019, one of which was hosted by IEC.

IRENA

The International Renewable Energy Agency ([IRENA](#)), an intergovernmental organisation that supports countries in their transition towards sustainable energy provides the opportunity to create synergies with IECRE. At its recent general assembly, the Renewable Energy Decade was pronounced (in conjunction with the Climate Change Decade) and it was recognized that the next ten years are critical for the development and deployment of renewable energies.

OECD

IEC CO continues to participate in the Organisation for Economic Co-operation and Development ([OECD](#)) partnership of international organisations for effective international rulemaking. Participants exchange experiences with academia and the OECD Regulatory Policy Committee on topics such as transparency, inclusiveness, implementation, monitoring, promotion and coordination.

OIML

The new joint working group between IECEx and the International Organization of Legal Metrology ([OIML](#)) held its first meeting during the IECEx annual meetings in September 2019 to explore cooperation on conformity assessment activities for equipment and instruments covered by both organizations.

REN21

IEC is a member of [REN21](#) and involved in its renewable energy task force. In this context IEC also submits articles for the REN21 newsletter and comments on REN21 reports.

UNECE

IEC maintains a close relationship with United Nations Economic Commission for Europe ([UNECE](#)), in particular on issues related to conformity assessment. UNECE has given formal recognition to IEC and ISO international standards and supported by IECEx certification for equipment, services and competence of persons associated with explosive environments. Other areas of dialogue include conformity assessment for renewable energy and cyber security.

IEC signed the [UNECE Declaration](#) for Gender Responsive Standards and actively participates in relevant meetings.

WTO

IEC continues to report to the [WTO](#) Technical Barriers to Trade ([TBT](#)) Committee three times per year with [updates](#) on IEC activities in developing and newly industrialized countries. IEC participated in several regional workshops on TBT in South America (Columbia, Peru) and Africa (Côte d'Ivoire).

3.2.5 Academia

IEC CO has provided support to the international segment of a new bachelor course at the Shenzhen Technology University in China. Material created for this university programme will be integrated into the IEC training portfolio once available.

The winning papers from the [Future challenges in standardization](#) academic challenge have been published and made available on IEC basecamp.

3.3 Providing innovation solutions to collaborate with other organizations

IEC fosters partnerships and collaboration with other organizations with the aim of reducing duplication of effort and avoiding market fragmentation caused by differences in standardization. Agreements, memoranda of understanding and pledges have been signed with 36 partner organizations.



In February 2020, IEC CO signed a collaboration pledge with the East African Center for Renewable Energy and Energy Efficiency (EACREEE). As part of this pledge, the two organizations will exchange information, attend relevant meetings and organize regional workshops.

3.3.1 Working with ISO and ITU

3.3.1.1 World Standards Cooperation

IEC works closely with [ISO](#) and [ITU](#) to promote the voluntary consensus-based international standards system under the banner of the World Standards Cooperation ([WSC](#)).

World Standards Day

On 14 October, the WSC celebrates World Standards Day as a tribute to the collaborative efforts of standardization experts worldwide. In 2019, a global competition called for video submissions based on the theme *Video standards create a global stage*. Further information about the winning video submission can be found on the [WSC website](#).

WSC Academic Day 2019

IEC co-organized the annual WSC Academic Day 2019, together with ISO and ITU, which took place in Serbia on the topic of how to bring standardization into the academic curriculum for future engineers and regulators.

3.3.1.2 Standardization Programme Coordination Group

The Standardization Programme Coordination Group (SPCG) has been set up in 2019 between IEC, ISO and ITU to find ways to promote effective collaboration. It has since held six meetings.

A subgroup on SPCG communications was created with the task of determining the best approach to promote the SPCG activities among the three organizations and their communities.

3.3.2 Working with consortia

Strategic Group 13

[SG 13](#): Working with consortia has been tasked by the SMB to look after ways to enhance the collaboration between the IEC and consortia. Following the work done in [ad hoc Group 76](#): Masterplan implementation, the SMB has approved the expansion of the scope of SG 13 to take on board the responsibility of providing innovative solutions to collaborate with other organizations.

4 Sustainable business model

4.1 Inspiring trust in and worldwide use of the IEC brand

IEC identifies and leverages communication and marketing opportunities that help increase global awareness of its work.

4.1.1 Brand policy

Council approved the brand policy in August 2019 thus allowing for the implementation guidelines to come into effect. These guidelines recognize the importance of the IEC brand, including associated trademarks and domains. As part of its policy, IEC members are invited to promote the IEC brand more actively at the national level by creating a strong link on NC websites, stationary, reception areas, etc. In addition to facilitating communications about IEC with national stakeholders, this will also allow the IEC to protect this important asset more effectively from misuse by others.

The IEC logo is now registered in 68 countries with applications pending in the African Intellectual Property Organization ([OAPI](#)), Iraq, Pakistan and South Africa. The IEC word mark (International Electrotechnical Commission) is now registered in 85 countries.

The registration process to protect the IEC CA trademarks (IECEX, IECQ, IECEE and IECRE) is ongoing.

4.1.2 Outreach and communication activities

IEC work in standardization and conformity assessment is highly technical and not easily understood. Through direct contacts with technical committees and management boards, interviews with experts, participation in plenaries and events, the monitoring of hundreds of relevant media and social media channels, IEC CO researches and develops high-quality journalistic content of global relevance.

Making IEC work more visible

Between 1 July 2019 to 30 June 2020, IEC CO showcased how IEC standardization and conformity assessment work addresses many of today's societal challenges. Particular focus has been placed on the SDGs with a detailed communications strategy developed on behalf of SMB ahG84 as well as contributions to the group's final report. Further materials have been developed including an update to the [SDG web zone](#) and [SDG briefing paper](#), presentations and the production of SDG related [icons](#) and a special SDG pin.

Other topics covered during this period included climate change, energy efficiency, smart transportation and mobility, energy access, artificial intelligence, cyber security, augmented reality and quantum computing, to name but a few.

The resulting articles are published in IEC owned websites, publications, and social media, and shared by IEC experts, members and affiliates. It is also repurposed for presentations, briefing papers and serves as the basis for speeches and interviews. During the period in question, NCs have translated and re-published over 85 articles developed by IEC CO as have numerous trade publications. IEC CO has also placed and prepared tailored articles for trade publications.

Making information available to members

IEC CO sends out regular updates to IEC members about newly available communication materials, briefing papers, presentations, videos, infographics, *e-tech* articles and blog posts as well as tips for useful resources such as image banks and photo libraries for NCs to use to promote IEC and their work to stakeholders in their country.

All material can be downloaded from [IEC basecamp](#) which is fully searchable by keywords. IEC basecamp has had over 60 000 pageviews between 1 July 2019 and 30 June 2020.

e-tech

IEC CO published six issues of *e-tech* between July 2019 and June 2020. During this period, 80 000 readers visited the [e-tech website](#) which garnered over 150 000 pageviews. A new *e-tech* online platform was launched in early June and provides a fresh look and modern functionalities, including readability for tablets and mobile phones.

New *e-tech* articles are promoted via email sent to over 35 000 recipients. Every edition of *e-tech* is also promoted on the IEC website via a slider image and on all major social media channels.

Since 2018, IEC regularly posts articles on [Medium](#) using repurposed IEC *e-tech* content. Between 1 July 2019 and 30 June 2020, IEC published 20 stories. Engagement rates have been high with each story viewed more than 230 times and obtaining an average read ratio of 43%. The 680 IEC followers on the platform are predominantly ICT professionals and journalists interested in technology.

Social media

The IEC uses social media channels to funnel traffic to IEC-owned websites.

Table 1 | Primary social media channels

	Twitter	LinkedIn	Facebook
Followers	16 161 (+16%)	17 176 (+51%)	112 879 (+34%)
Tweets and posts	1 085	564	668
Engagement	35 890	21 632	171 498
Impressions*	3 million	703 912	32 million

*number of times content is displayed

IEC CO reached significantly more people with 146 207 loyal followers from all three social media networks (35% increase) and 36 million impressions compared to 108 298 followers and 26 million impressions in the previous period.

The IEC social media presence is well-established and trusted by users with more responses generated from each IEC post (11 512 responses from 2 355 tweets and posts). In 2020, IEC CO introduced a monthly key topics (hashtag) campaign to further develop the IEC social media presence which has resulted in the active engagement of 4 000 social media users in the first six months. IEC also participates in campaigns organized by the UN and other organizations.

IEC CO regularly posts articles on its [blog](#). Between July 2019 and June 2020, over 200 posts were accessed by 30 000+ users and generated more than 68 000 pageviews.

Media monitoring

IEC CO monitors all types of media and replies to enquiries from international media about IEC International Standards and CA Systems on a regular basis. It serves as a spokesperson for media as well as prepares and shares relevant media backgrounders. Through its media monitoring, IEC CO identifies and shares articles with relevant IEC TC/SC/SyCs, as well as makes requests for corrections to editors when information has been misreported.

Websites

Upon request, IEC CO develops websites for use by IEC system committees and technical committees. Between 1 July 2019 and 30 June 2020, IEC CO developed websites for [SyC Smart energy](#), [IEC TC 111](#), the [IEC General Meeting 2020](#) and [ISO/IEC JTC 1](#).

4.2 Securing long term stability through a diverse and sustainable revenue mix

IEC CO works together with IEC National Committees (NCs) to seek and develop appropriate initiatives to broaden the source of revenue. This is a fundamental issue to be addressed since the current IEC business model is expected to be challenged by external factors.

4.2.1 New revenue streams

The Council Board Advisory Group on new revenue generation ([NRG](#)) has held several meetings to further review the topics selected by the group that have been deemed to have the highest revenue potential for the IEC and NCs. Business plans have been considered and a scoreboard was used to compare the potential projects in an objective manner.

At the IEC GM 2019, Council Board confirmed its support for the following four projects:

- IEC marketplace – an ecommerce platform for NCs, IEC CO and third parties to make their projects and services available to the market
- Consolidated information service – new products and services based upon existing data or intellectual property such as test report forms (TRF) from the IEC CA Systems
- Commented redlines – a value-added product that provides the international standard as well as a commented redline version showing changes that have been made including the justification for the changes from one edition to the next
- Consultancy & professional training – a dashboard of NCs providing consultancy services and a suite of technical and executive management training courses available to those interested in standards and conformity assessment work

The four projects have now completed the “sandbox” phase with studies and market analysis for each of the proposals.

In April 2020, IEC CO recruited a new Business Development Consultant and Manager to work closely with the NRG working groups and Head of Sales and Business Development with the aim of advancing the selected projects in the pilot phase. If successful and supported by CB, these pilots will lead to the launch of new added-value products and services as of January 2021.

4.2.2 Sales policy

The new sales policy approved by Council, together the implementation conditions approved by Council Board, entered into force on 1 January 2020.

More than 80% of IEC NCs have signed the licence agreement to use IEC products developed by the Sales Advisory Group ([SAG](#)). It reflects the different ways NCs can benefit from IEC publications including for internal use, access to drafts for translation and (public) commenting, national adoptions and reproduction as well as sales.

4.3 Establishing strong legal foundations for the entire business model

Developing new revenue streams requires substantial analysis, preparation and planning. Strong legal foundations covering copyright, intellectual property, security and liability protection are necessary. IEC CO is in regular contact with legal specialists to strengthen the protection for IEC and NCs and to ensure that IEC is compliant with competition law.

To monitor the IEC legal, financial, ethical and compliance exposure, a new Legal and Compliance Officer has been recruited. The Officer will also support the development of business processes based on best practices.

4.3.1 Protection of intellectual property

With the support of the IEC external legal advisor on intellectual property, the Council Board's Copyright and Database Rights Ad Hoc Group ([CDAHG](#)) developed a comprehensive approach to strengthen IEC copyright protection. Care was taken to elaborate a proposal that is sufficiently flexible to take into account existing national approaches and local requirements, without creating an extensive administrative burden on NCs or IEC CO.

The copyright policy has been approved by Council and the implementation guidelines, approved by Council Board, will be put into place in early 2021.

5 Flexible organization

5.1 Achieving a transparent governance structure that addresses opportunities and challenges

Coordination between the various IEC governing boards is being enhanced as is their transparency regarding decisions and activities.

5.1.1 Governance review

The governance review process commenced in early 2020 with the first meeting of the IEC Governance Review Taskforce (IGTF). A considerable amount of time has been invested in this activity. Developing an IEC governance system that reflects the varying needs of the different IEC stakeholders and the diversity and variety of interests among the membership requires in-depth discussions. Feedback from many key stakeholders (CB, IGTF, NCs, SMB, CAB) has been collected and analyzed.

The IGTF is debating a number of proposals and recommendations to revise the IEC Statutes and Rules of Procedures to tailor them further to the needs of the IEC community and ensure that the corporate governance of the organization is strengthened and future-proof.

The aim is to deliver the revised Statutes and Rules of Procedure to Council for consideration and decision at the IEC General Meeting 2021.

5.1.2 Diversity and geographical balance

CB TF on diversity

The Taskforce on diversity, established by the Council Board in October 2018, delivered an initial report and recommendations in June 2020. The TF identified three core areas for IEC in terms of diversity: stakeholder, gender and geographical diversity. The Council Board approved the IEC diversity statement, which is available [online](#). Work now continues on the development of action plans for the three core areas of diversity.

SMB work to promote regional balance

In October 2019, the ahG 82 on TC/SC leadership and regional balance delivered its final report to the SMB. Based on its recommendations, the SMB set up ahG 85 on IEC secretariats to investigate specific operational issues related to the working and allocation of secretariats of TC/SCs.

SMB ahG 85 delivered its final report and recommendations which were approved in June 2020. IEC Technical Officers are responsible for identifying and raising issues occurring with secretariats to the SMB after consultations with the relevant leadership and National Committee. When such issues are reported, SMB will deal with them on a case-by-case basis.

SMB also agreed to explicit the criteria and process for the allocation of secretariats when two or more National Committees have expressed an interest to hold such positions.

5.2 Ensuring IEC work is relevant and used everywhere

The national delegation principle is a core fundamental strength which is continuously supported and improved.

5.2.1 Membership

As of 30 June 2020, the IEC had a total of 89 members: 62 full members and 27 associate members.

New members

Between 1 July 2019 and 30 June 2020, IEC welcomed three new members:

- National committee of Ghana in November 2019
- National Committee of Uganda in January 2020
- National Committee of Ethiopia in June 2020



Figure 2 | IEC CO offers tailored support to the growing number of National Committees.

Among others, activities include face-to-face meetings, administering the annual NC President forum and regular NC Secretary forums/workshops (which are both face-to-face and web-based), presentations to NC boards or specific stakeholder groups, mentoring programme, regular calls, outreach events, focused roundtables and helping to build contacts across NCs facing similar situations to enhance the exchange of experiences and best practices.

5.2.2 Affiliate Country Programme

The IEC Affiliate Country Programme offers developing and newly industrialized countries the opportunity to benefit from IEC work without the financial burden of membership.

As of June 2020, IEC had a total of 84 affiliates.

New adoptions

From July 2019 to June 2020, six affiliate countries continued to adopt IEC International Standards at the national level: Botswana, Cambodia, Dominican Republic, Ecuador, Mongolia and Myanmar.

In addition, two countries declared their very first adoptions: Mali and Uzbekistan.

This brings to 62 the number of developing countries that have benefitted from the IEC affiliate adoption procedure of which 11 are now IEC members. Altogether, 8 484 IEC International Standards have been adopted since the launch of the IEC Affiliate Country Programme in 2001.

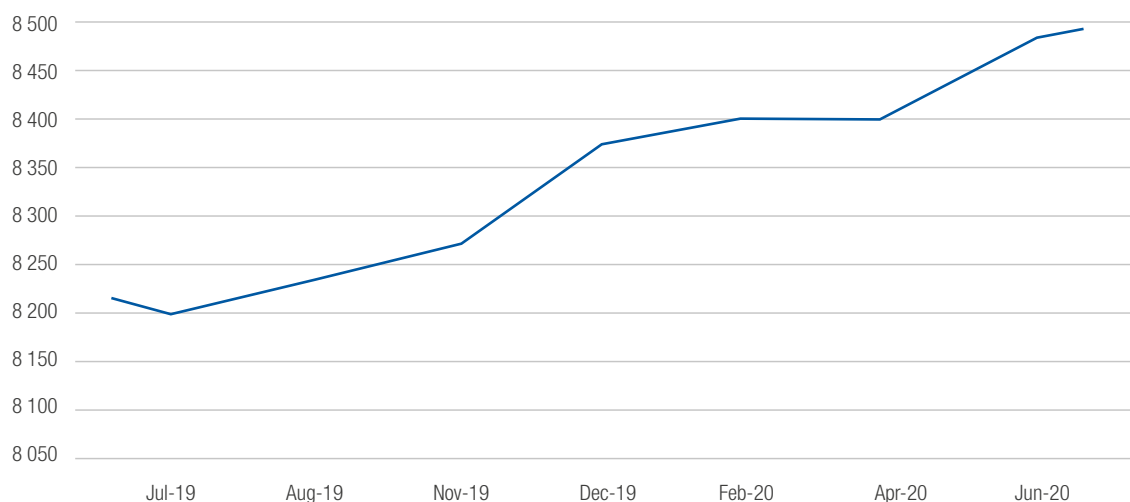


Figure 3 | Affiliate country adoptions from July 2019 to June 2020

New NECs and Affiliate Plus

With the establishment of two new national electrotechnical committees (NECs) in the Kingdom of Eswatini and Uzbekistan, 69% of affiliates now have a NEC with representatives from the public and private sectors. More than half of affiliate countries with NECs (31 out of 58) have been granted Affiliate Plus status, giving them priority for mentoring as well as a double quota of free IEC International Standards for adoption (400 instead of 200). In December 2019, Uzbekistan obtained Affiliate Plus status.

Affiliate Conformity Assessment status (ACAS)

The Affiliate Conformity Assessment status (ACAS) offers affiliate participants benefits in all IEC CA Systems. The objective is to train affiliate countries to use IEC International Standards and benefit from the IEC CA Systems through the recognition of IEC CA certificates at the national level.

Since the launch of ACAS, 34 countries have requested ACAS status. Since July 2019, three countries, Burkina Faso, Gambia and Senegal, have signed the ACAS Declaration, thus committing to accept IEC CA certificates.

Events for the affiliates during the General Meeting 2019

The IEC GM provides affiliates with the opportunity to become more familiar with IEC work in standardization and conformity assessment as well as to meet with IEC international experts.

– Affiliate forum

Ordering standards under the terms of the Affiliate Country Programme was the theme of the Affiliate forum which was attended by 23 affiliate countries. Other presentations included case studies on standards implementation by the NEC President from Ethiopia and the NEC Secretary from Brunei Darussalam.

– Workshop for industrializing countries

The workshop examined the theme of the UN Sustainable Development Goals and how standards can help address these goals. Speakers included representatives from the WTO, IRENA and the IEC SMB. It brought together 107 participants representing 19 affiliate countries.

– Affiliate NEC Secretaries and Chairs workshop

The NEC Secretaries and Chairs workshop focused on the commenting process on publications at committee draft and committee draft for vote stages, as well as on working documents within the scope of technical committees selected by each NEC. It was attended by 34 participants from 19 countries as well as three regional organizations and the WTO.

5.2.3 Mentoring programmes

Member mentoring programme

The IEC membership mentoring programme is open to both associate and full member National Committees. The goal of the programme is threefold:

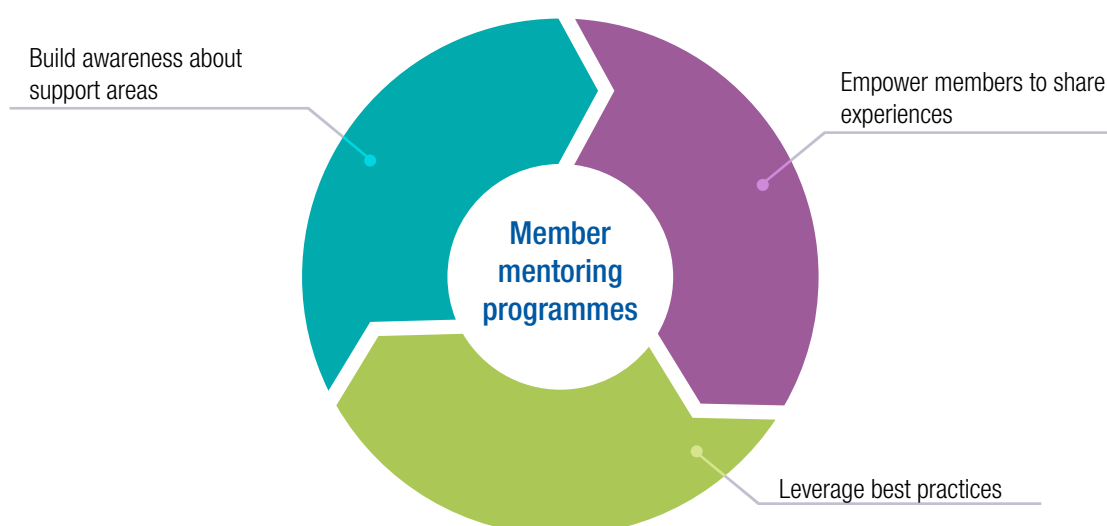


Figure 4 | Member mentoring programmes

Several IEC members have received mentoring in the past and a number of new partnerships between members are being established. For confidentiality reasons, at the request of some participants, no names are mentioned. Members interested in receiving or providing mentoring should contact the membership group at mgmt@iec.ch.

The mentoring programme has a duration of two years. Activities covered by the programme can be tailored to meet the needs of the specific mentee.

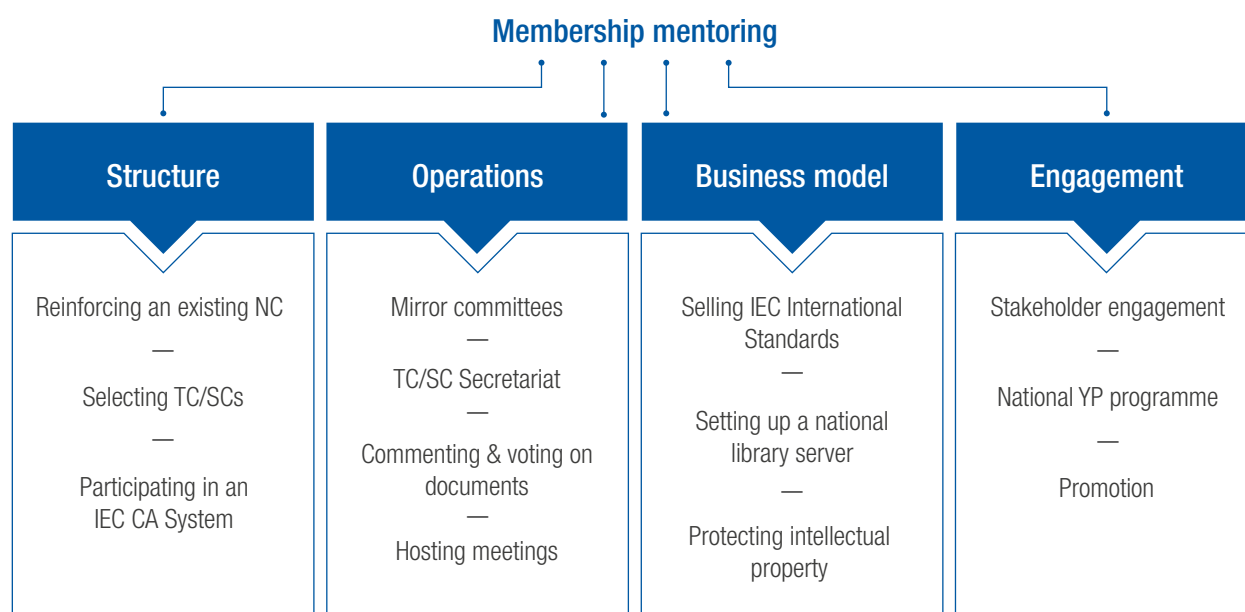


Figure 5 | Examples of topics covered by membership mentoring

When a mentoring partnership is established, IEC CO will support the partnership in various ways, including by attending teleconferences or bilateral meetings during the IEC general meetings, as desired by the concerned parties.

Affiliate mentoring programme

In this programme, the affiliate country benefits from mentoring by an IEC member for a period of two years with the aim of reinforcing their NEC. Activities covered by the programme include how to identify and reach out to relevant stakeholders, national adoptions and implementation of IEC International Standards, how to establish mirror technical committees and participate in IEC work through the commenting process.

Between 1 July 2019 and 30 June 2020, the following mentoring partnerships with affiliate countries were underway:

- CROSQ – United States
- Namibia – United Kingdom
- Senegal – France

During the IEC General Meeting 2019, the partnership between the NC from the United Kingdom and the NEC from Namibia was renewed.

5.2.4 Regional Centres

IEC-AFRC

The IEC Africa Regional Centre ([IEC-AFRC](#)) is the focal point for the IEC in Africa, helping to promote awareness of the IEC in the region, increase the use of IEC International Standards and IEC Conformity Assessment Systems and enhance participation and membership of countries in the region.

Between July 2019 and February 2020, IEC-AFRC Officers were able to visit a number of countries. Since March 2020, travels ceased and meetings have been held online.

– Providing support to members and affiliate countries

As part of its efforts to reach out to members and provide support in the African region, IEC-AFRC attended the Kenya Bureau of Standards ([KEBS](#)) World Standards Day celebration held in Nairobi in October 2019 and provided the keynote address.

IEC-AFRC Officers met with a number of NECs including from the Kingdom of Eswatini, Senegal and Djibouti.

Online training of new IEC members was provided to the IEC NC from Ghana and to the IEC NC from Uganda. IEC-AFRC also held discussions with the NCs from Côte d'Ivoire, Ghana and Uganda to help support the establishment of national Young Professional (YP) programmes.

– Meetings and events

In addition to meeting with IEC members and affiliate countries, IEC-AFRC participated in several key regional event such as the meeting of the African Electrotechnical Standardization Commission ([AFSEC](#)) Conformity Assessment Committee, AFSEC Management Committee meeting and general assembly, World Trade Organization ([WTO](#)) Technical Barriers to Trade regional workshop for French-speaking African countries, the general assembly for the Réseau Normalisation et Francophonie ([RNF](#)) and ISO Committee on Developing Countries ([DEVCO](#)) meetings as well as the Arab Industrial Development & Mining Organization ([AIDMO](#)) 53rd meeting of the High Consultative Committee for Standardization.

IEC-AFRC also attended the 14th Southern Africa Energy Efficiency Confederation ([SAEEEC](#)) event held in South Africa, the fourth annual Regional Energy Summit ([RES](#)): West Africa in Senegal and the [Fourth Annual PowerTech conference](#) held in Kenya.

– Conformity Assessment Training

In February IEC-AFRC provided training to AFSEC Conformity Assessment Committee members in Egypt.

IEC-APRC

The Asia-Pacific Regional Centre ([IEC-APRC](#)) covers both promotional and technical activities. Since 2002, IEC-APRC has played a major role in raising awareness of the IEC, increasing the use of international standards and CA systems and maximizing participation in IEC work. On the technical side, the team supports 73 TC/SCs.

Due to the travel restrictions resulting from the Covid-19 pandemic, meetings and events have been held online since March 2020.

– Supporting IEC members and affiliates

IEC-APRC provided training opportunities to the National Committees from Bangladesh, Malaysia and Singapore.

Together with [Standards Australia](#), IEC-APRC participated in the Indo-Pacific Digital Trade Standardization Initiative, with participants from the NCs from Bangladesh and Sri Lanka as well as the affiliate countries Bhutan and Nepal. IEC-APRC also participated in a joint workshop organized by the Bureau of Indian Standards ([BIS](#)) and [CEN/CENELEC](#).

To help support national young professional programmes in the region, IEC-APRC attended the KATS and KSA workshop for trainers & YP programme organizers.

IEC-APRC organized an online regional catch-up session for NCs and affiliates in Asia and Oceania which was attended by 16 countries.

– Meetings and events

IEC-APRC attended a number of meetings including several with the [ASEAN](#) Consultative Committee on Standards and Quality (ACCSQ) and the [APEC](#) Subcommittee on Standards and Conformance. In addition, IEC-APRC attended the Northeast Asia Standardization Cooperation Forum (NEASF), the [International Standards Olympiad](#), the annual South Asian Regional Standards Organization ([SARSO](#)) Governing Board meeting, the ASEAN Electrotechnical Symposium and Exhibition 2019 as well as the China Southern Power Grid International Technology Forum.

Together with the General Secretary, IEC-APRC attended a web meeting with Pacific Area Standards Congress ([PASC](#)) which also included the participation of ISO and ITU.

IEC-APRC participated in a number of workshops including two ASEAN-Australia Digital Trade workshops, the Smart Energy talk in Singapore with IEC Ambassador Richard Schomberg, the Pacific Regional Quality Infrastructure workshop in Fiji, the Singapore-United States Smart Cities Third Country Training Programme for ASEAN and Timor-Leste, the JISC/IEC/APCF seminar on *Standards to Support Applications of New Digital Technology*, the APEC workshop on ISO/IEC 17024 and the [UNIDO](#) workshop on *Standards and Quality Infrastructure for Innovation*.

IEC-LARC

The Latin America Regional Centre ([IEC-LARC](#)) is the focal point for IEC activities in the Latin American and Caribbean region. It promotes awareness of IEC work, encourages the adoption of IEC International Standards and IEC Conformity Assessment Systems and advocates participation and membership by countries in the region.

– Supporting members and affiliates

With support from IEC Academy & Capacity Building, IEC-LARC provided a training course for members in Mexico and participated in the national Young Professional programme launch event in Peru.

Due to the travel restrictions following the Covid-19 pandemic, IEC-LARC activities were concentrated to contact and support to NCs, regional bodies and stakeholders online. A number of planned activities were maintained, including the webinars supporting the COPANT programme to enhance its membership involvement in the IEC work. One of these webinars, with the participation of IEC Ambassador Trond Sollie, detailed the IEC CA Systems and the benefits of participation.

– Meeting and events

IEC-LARC attended the 2019 FINCA annual workshop and meeting, the WTO TBT regional workshop in Colombia, the [APEC subcommittee on Standards and Conformance](#) meetings, the *International Quality* seminar organized by the National Quality Institute ([INACAL](#)) and the Pan American Standards Commission ([COPANT](#)) focal group for IEC meeting.

IEC-LARC also presented IEC activities and expertise at the FIEE Abinee Tec Forum and Regulatory Convergence workshop, the XII Latin American Smart Grid and Smart Cities Forum and the Electrical Industry Trends conference.

At the *International Vision over the Standardization and Conformity Assessment* seminar organized by the General Directorate of Standards of the Secretary of Economy of Mexico, IEC-LARC provided a presentation to an audience of 500 stakeholders from the private and public sectors about the IEC vision on standardization and its role in the future.

IEC-ReCNA

The Regional Centre for North America ([IEC-ReCNA](#)), which provides support for technical committees, is comprised of two Technical Officers, two Standards Project Administrators and the MSB Secretary. IEC-ReCNA provides support to 39 TC/SCs, including CISPR, with a particular focus on those with secretariats located in North America.

IEC-ReCNA holds the secretariat of several management and technical bodies including:

- Market Strategy Board (MSB)
- SMB Strategic Group 11: Hot topic radar
- Advisory Committee on electromagnetic compatibility (ACEC)
- SMB Strategic Group 13: Working with consortia
- [SMB Standardization Evaluation Group 10](#): Ethics in autonomous and artificial intelligence applications

IEC-ReCNA held a training session for the Secretary of [SC 86C](#) in November 2019.

5.3 Representing all relevant interests at all levels

IEC National Committees are the backbone of IEC and have a crucial role in bringing all national players together to provide relevant inputs into IEC activities at the global level and ensure the effective implementation of IEC work at the national level.

– NC related activities

To strengthen transparency, involvement and information-sharing with the NCs, IEC CO has organized the following NC Secretary forums:



Figure 6 | NC related activities

All unrestricted Council Board documents continue to be made available to full member National Committee Presidents and Secretaries.

5.4 Attracting the world's best leaders and experts

IEC encourages and supports comprehensive programmes to attract new leaders and train experts.

5.4.1 IEC Academy & Capacity Building

IEC CO delivers continuous training and capacity building to the entire IEC community. It provides high quality training through its webinars, capacity building events and workshops around the world and at IEC CO. Between 3 800 to 4 000 people have benefitted from the available training. A [report](#) is available with information on the full range of activities which took place in 2019.

IEC CO has regular meetings with its ISO counterparts to share ideas and discuss possible opportunities for collaboration.

Because of the Covid-19 pandemic, many of the activities planned as of March 2020 have taken place online.

IEC training and capacity building workshops

The IEC CO offers up to 15 national workshops per year to National Committees on topics such as:

- Capacity building and beginners
- Intensive training for experts, workshop with breakout sessions
- Coordination meeting with National Committee - best practices for NCs and their mirror committees
- Standardization boot camp *Standard in a day*
- Support for national YP programmes

Since July 2019, national workshops have been organized in Mexico, Malaysia, Norway, Peru and Singapore. In addition, the workshops in Mexico and Malaysia were followed by national capacity building events.

Supporting regional organizations

To provide support to regional standardization organizations, IEC CO organized three training sessions for COPANT and AFSEC.

New NC Secretary training

All new NC Secretaries and Presidents can receive an intensive two-days training at the IEC CO in Switzerland. Between July 2019 and June 2020, four training sessions took place for the NCs from Denmark, Egypt, Ghana, Philippines and Uganda. Of these, two were convened online.

New TC/SC Officers training

IEC CO offers an intensive, two-day training session to all new TC/SC Chairs and Secretaries. Sessions were organized in Switzerland and Singapore in November 2019 and in February 2020.

New IEC member training

Online training sessions are organized to help new members prepare for their participation in IEC. Online sessions have been provided for the NCs from Bangladesh, Ghana and Uganda.

IEC Academy webinars

Between July 2019-June 2020, IEC CO organized 18 public webinars on topics such as the Frankfurt Agreement, KAIZEN, cyber security, IEC Collaboration Platform, the circular economy, energy efficiency, good practice in drafting IEC Standards and best practices for IEC Convenors.

All webinars are recorded and made available on the [IEC website](#), together with the webinar presentations.

Standard in a day boot camps

IEC CO continued to provide its successful *Standard in a day* boot camp, based upon an idea originating from an IEC YP Leader and the NC from Germany. Two boot camps were held in Germany and Malaysia.

IEC Academy & Capacity Building day 2019

Alongside the General Meeting 2019, IEC CO organized a full-day event which brought together 120 participants who learned about best practices to increase stakeholder engagement.

IEC Academy platform

IEC CO is in the process of developing an online learning management system that will allow participants to take courses online. This new platform will be composed of courses on topics such as standardization and conformity assessment as well as on the requirements of specific IEC roles such as convenors, secretaries and chairs.

A prototype has been created and an online course for convenors is currently being prepared.

Collaboration pledges

IEC collaboration pledges have been created to strengthen the NC relationships in the areas of capacity building, training and academia. Three collaboration pledges have been signed with SAC and the Shenzhen Technical University, the Russian GOST-R Academy and DKE Next Generation.

5.4.2 Young Professionals Programme

The IEC Young Professionals Programme (YPP) encourages the next generation of IEC experts and leaders to become involved in IEC work on a long-term basis. The programme facilitates the contribution by young professionals to standardization and conformity assessment activities as well as serves as a conduit for the IEC to welcome new voices and ideas into its community.

The IEC YP Programme has brought together a total of 629 participants from 51 countries since its debut in 2010. Currently 189 YPs have active roles in the IEC and includes TC/SC/SyC chairs, secretaries, convenors and members while many more have active roles at the national level. To date, the programme counts five 1906 Award winners and one NC President as well as one NC Secretary.

Following the YP workshop held alongside the IEC general meetings, YPs are encouraged to leverage opportunities to become involved in standardization and conformity assessment work at the national or international level.

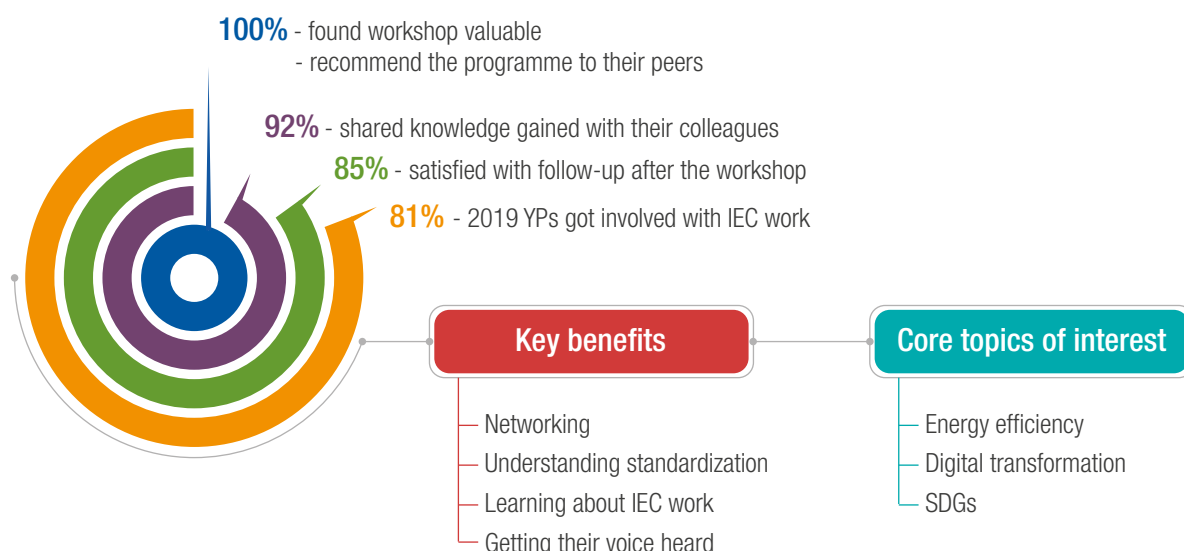


Figure 7 | Results from the 2019 YP survey

YP Leader projects

Each year, YPs have the opportunity to develop projects that can support YPs in their IEC involvement and help to further advance the programme. The 2019 YPs, through their elected YP Leaders, are developing the following projects:

- promoting cultural diversity in IEC by helping the most recent IEC members from Africa (Ghana, Uganda and Côte d'Ivoire) to establish national YP programmes
- increase the involvement of YPs in standards work by promoting standardization in Europe
- improve the participations of YPs from Asia via national YP programmes

2019 YP workshop

The 2019 YP workshop in Shanghai brought together the largest ever group with 87 YPs representing 40 National Committees. One of the YP Leaders from 2018 led a special session on the UN SDGs. Participants had the opportunity to observe CAB or SMB meetings, a technical meeting and participate in numerous breakout and interactive sessions.

While the YP workshop remains the primary physical networking activity of the programme, engagement continues throughout the year. YPs will have the opportunity to attend and actively contribute to a series of interactive online sessions focusing on the development of leadership skills and discussing issues of interest.

Supporting national YP programmes

IEC CO provides NCs with support in developing national YP programmes. National workshops have been held in the United States and in the Republic of Korea with participation from Germany and Singapore. Currently the YP Leaders are working together with NCs on a revision to the national YP toolkit.

6 Agile operations

6.1 Embracing new ways of working

Given the rapidly changing dynamics of today's world and the digital transformation of industry, it is incumbent upon the IEC community to be open to new ideas, technologies and working practices.

Develop a business plan exploring new ways to expand CA activities

The [New CA Services Radar](#) identifies potential opportunities as early as possible, instituting discussions with market players at the appropriate time and tracking the results. It is the first stage in a multi-stage system to bring new CA services online in an efficient and cost-effective manner. The goal of any new CA service is to provide value to its market sector and to reach sustainability as quickly as possible. To assist in achieving this goal, [CAB Working Group 10: Strategy and policy](#) is developing an IEC CA Directives document with guidelines for the process of doing so. A first draft is expected in 2021.

6.2 Creating flexible, efficient and cost-effective processes and operations

IEC operational structures require constructive collaboration models in order to be able to respond to market demands in a timely and efficient manner.

The efficiency and effectiveness of the current management processes in IEC CO is being reviewed with the aim of an integrated management approach with better planning and coordination, more consequent delegation of tasks and responsibilities as well as enhanced synergies. During the last few months, a number of areas with room for improvement have been identified and are being addressed.

A more streamlined management structure is being prepared, with a planned implementation in Q4 2020.

In parallel, with the support of an external consultant, IEC has developed a risk framework to provide a holistic approach to risk across the organization. In June 2020, Council Board tasked IEC CO to develop mitigation plans for the first five risks identified.

6.2.1 Gather and share feedback related to IEC publications

The goal of conformity assessment is to ensure that the technical requirements of IEC publications have been met. The majority of conformity assessment performed against IEC Standards is done by product manufacturers in their Suppliers Declaration of Conformity (SDOC) and it can be difficult to obtain feedback about the standards.

The IEC CA Systems, however, provide a user-base from which it is very easy to obtain feedback as well as a direct link to the many professional testing laboratories from all over the world participating in the CA schemes. Different users of the standards may interpret the standards differently with, potentially, different results. The IEC CA Systems bring their participating testing laboratories together into committees to discuss and develop harmonized interpretations and consistent methodologies. This is extremely valuable feedback for the IEC TC/SCs that develop those standards.

In order to capture this valuable user feedback, CAB and SMB created a joint *ad hoc* group to create a feedback-loop process. This process has been approved and the challenge now is to implement it in a consistent way throughout the IEC standards development

community. The intention is to achieve this through training of technical officers and the TC/SC chairs and secretaries, as well as through the elevation of this best practice into the ISO/IEC Directives.

6.3 Providing state-of-the-art IT tools

An increasing amount of time and effort is being spent on IT activities, not only in IEC CO, but also in a number of governing and advisory bodies as well as in individual committees and groups. Much work is underway and substantial investment is being made in IT.

The IEC IT department has directly supported the two masterplan implementation items that were assigned to the IEC Information Technology Advisory Group (ITAG). The first of these addresses the consolidation of the future needs for IT tools, including new deliverables and services, while the second addresses the promotion of IEC IT tools approach with ISO. ITAG working groups were set up to address cooperation with management boards and advisory groups as well as the definition of key performance indicators for cooperation on IT matters with ISO.

The Covid-19 pandemic resulted in the transition of all IEC CO staff from the office to the home environment. The IEC IT department successfully enabled the transition with little forewarning and ensured that staff could continue to fulfil their work obligations from home. IEC was already well prepared with an IT infrastructure and tools architecture in place that allowed for on-site or remote working. The IT team provided extra support to teleworkers and was continually available to quickly resolve any problems. Furthermore, high service levels were maintained for systems and tools used by the standards development and conformity assessment communities.

Collaborative online authoring

IEC and ISO are preparing a joint pilot implementation of FontoXML, a tool for collaborative online authoring of standards which will not only replace Microsoft Word, but also directly provide XML data that will enable the creation of new products and services. Participants in the pilot were selected from the membership of the online authoring reference group.

XML conversion

The conversion of standards published between 1997 and 2019 into the NISO STS XML format was completed at the end of 2019. In October 2019, Council Board decided that XML files will be made available to NCs subject to signature of the licence agreement to use IEC products.

Discussions are ongoing in the joint IEC-ISO user group to establish best practices for the creation and usage of NISO STS XML.

Harmonized data feeds (APIs)

As part of the ongoing joint IEC/ISO activity to deliver data feeds that follow both a common format as well as a common delivery mechanism, APIs were developed to enable members to integrate data on working documents in their own systems.

IEC Collaboration platform

All IEC NCs as well as IECEE, IECRE and CENELEC have now been integrated into the IEC Collaboration platform. Performance and user experience improvements are underway. Furthermore, the platform was enhanced to allow hosting of any other organizations and COPANT, IMEA, AFSEC, CIE, FINCA have been successfully migrated to the platform.

Generic mapping tool

IEC has deployed a new generic mapping platform. With this new tool, IEC TC/SC/SyCs are able to frame their standardization activities including use cases in a graphical context. The maps will also provide a search facility for customers.

Conformity assessment

The deployment of an IEC-wide centralized document handling and online voting and commenting system is currently underway for the IEC CA Systems and has been completed for IECRE and IECEE. The online voting system is also operational for IECEx.

The second version of the IECEE global database has launched with the integration of peer assessment activities. In addition, the next-generation online certification system (OCS) for IECEx certificates has launched and is now being applied to IECRE certificates.

Infrastructure upgrades

Significant progress has been made on removal and replacement of legacy technology, including the continued move to increased usage of cloud-based services that provide greater flexibility and increased resilience and stability for IEC IT systems.

7 Masterplan implementation

Following the approval of the Masterplan implementation plan by Council Board in June 2018 and the subsequent endorsement by Council in August 2018, the designated leading entities have developed action plans for their respective deliverables.

Leading entities report on the progress of their action plans three times a year, coinciding with the management meeting cycle. These progress reports are considered at each Executive Committee meeting as well as at Council Board meetings in order that the implementation of the IEC Masterplan is monitored carefully. The progress reports are also made available to National Committees via the IEC Collaboration platform and are shared with the CAB, MSB and SMB.

A graphical representation of the Masterplan implementation plan (MPI) and the progress of the various deliverables are provided below.

Overall, progress has been made. However there is also some impact resulting from Covid-19, particularly with regard to deliverables falling under the responsibility of NCs.

At its June 2020 meeting, Council Board established a task force to undertake a high-level review of the implementation of the Masterplan and to prepare for the development of a future strategy.

7.1 Masterplan implementation overview graphs and timelines

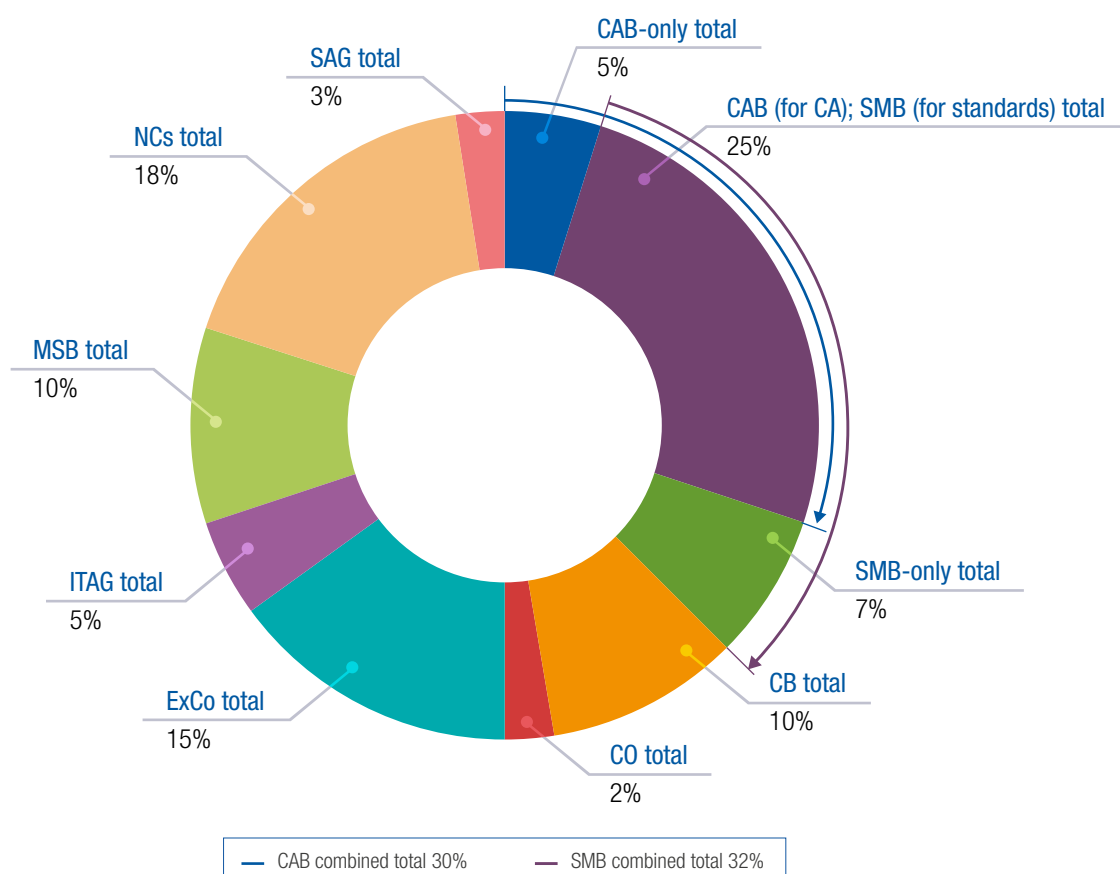


Figure 8 | MPI deliverables: distribution by leading entity

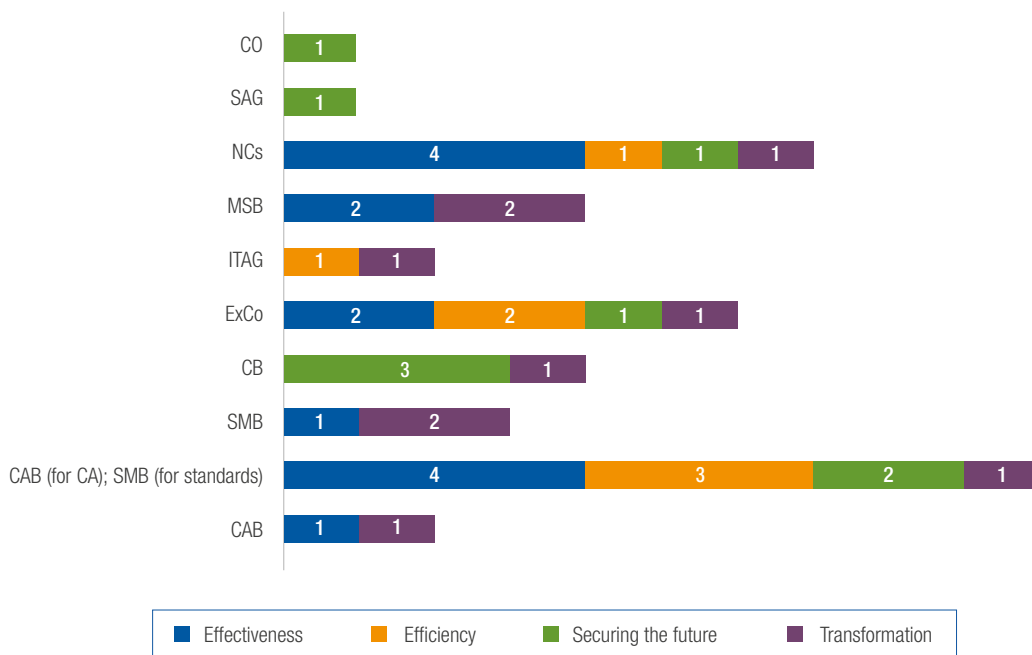


Figure 9 | Number of MPI deliverables by impact and leading entity

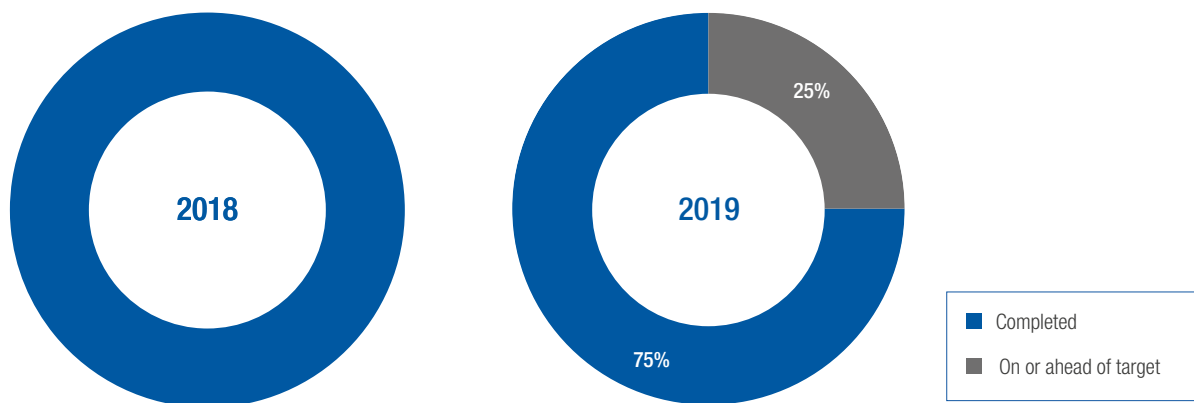


Figure 10 | 2018 and 2019 MPI deliverables status

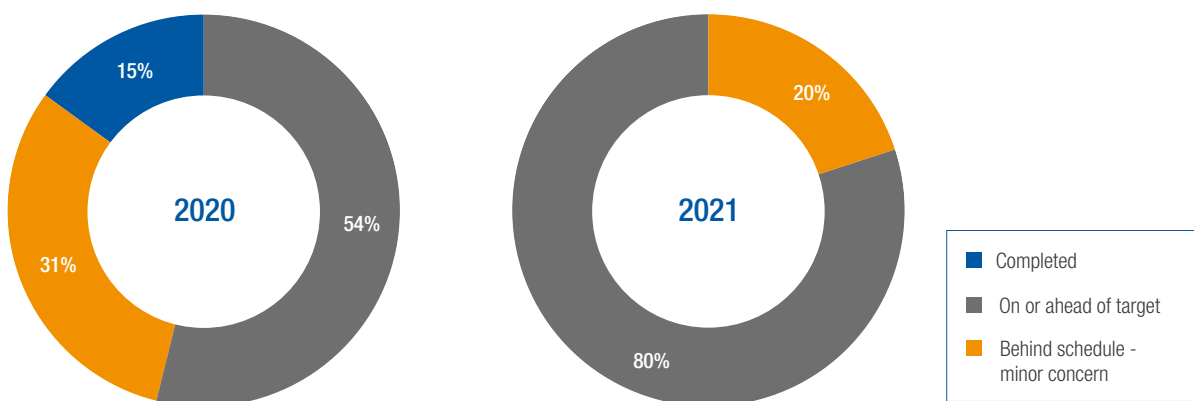


Figure 11 | 2020 and 2021 MPI deliverables status



Figure 12 | Status of IEC-CO actions

8 Financial overview and transition

8.1 IEC financial performance

8.1.1 Income and operational expenditure

This graph offers an overview of IEC total income and operational expenditure 2004 to 2020 (estimated). The increase in 2019 income is due mainly to additional financial income (unrealised). Covid-19 will likely impact 2020 sales, royalties and financial result with an accompanying decrease in travel and meeting expenditure. This estimation is based on a revised forecast provided to the Financial Committee (FinCom) in August 2020. The projected use of reserves is due to IEC Masterplan implementation and IT investments.

[For comparison over time: Total income = operational income + net financial revenue / Total expenditure = operational expenditure + depreciation]

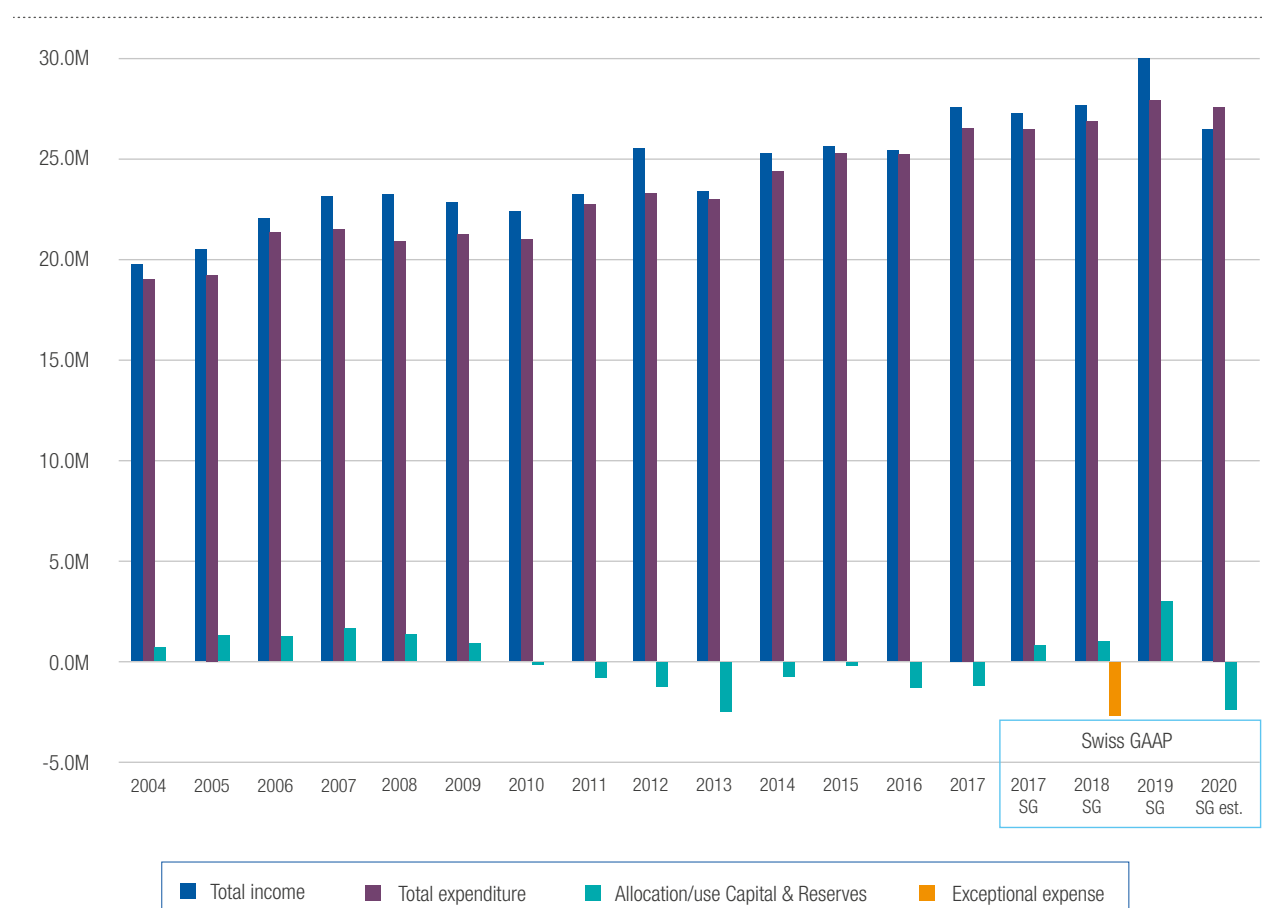


Figure 13 | Consolidated income and operational expenditure

8.1.2 Distribution of aggregated income

From 2004 to 2020 (estimated), the distribution of overall IEC income changed. The percentage of total income from sales and royalties increased by +7,9% while the percentage of income from membership dues decreased by –11,2% and the number of members increased from 63 to 89

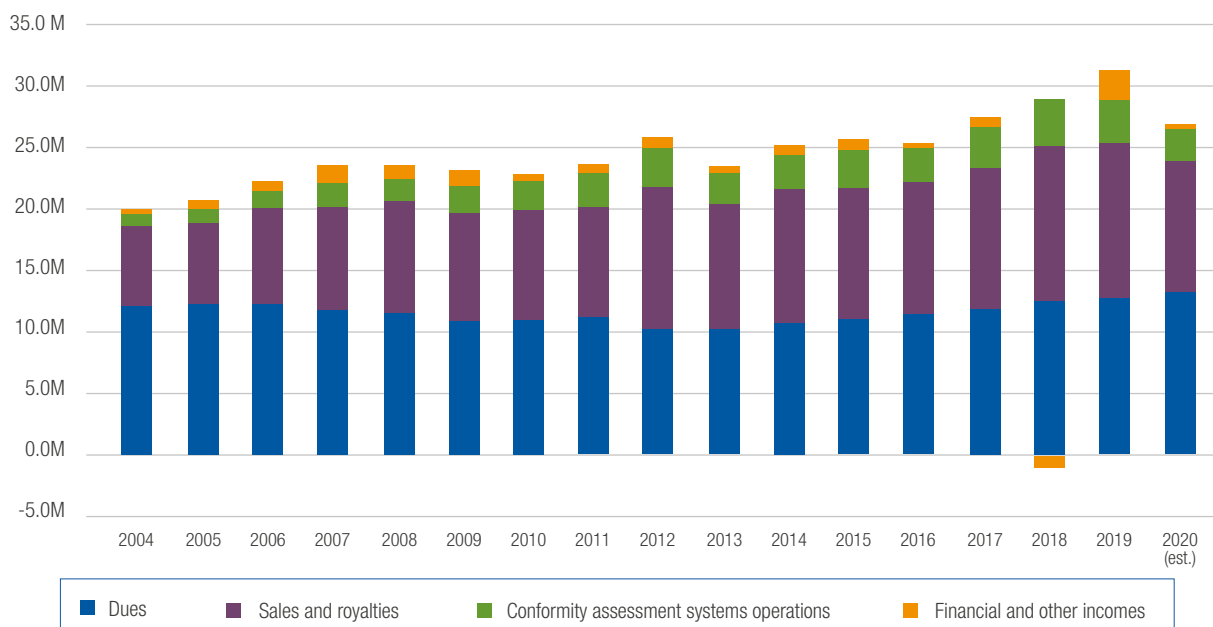


Figure 14 | Distribution of aggregated income

8.1.3 IEC Standards & Services budget & dues

Budget growth is due to an increase in IEC membership and service offering together with IEC Masterplan implementation. Income from dues has fallen proportionally. The actual amount of IEC Standards & Services dues for 2020 is lower than in 2004.



Figure 15 | IEC Standards & Services budget and dues

8.1.4 Royalties – IEC Standards & Services

Since 2004, as indicated in the graph below, the volume of royalties paid to NCs on IEC CO sales and IEC CO-Appointed Sales Outlets have increased almost three times over while the volume of royalties received from NCs has doubled during the same period. Income from royalties is only on the sales of IEC Standards, not on the sales of national adoptions.

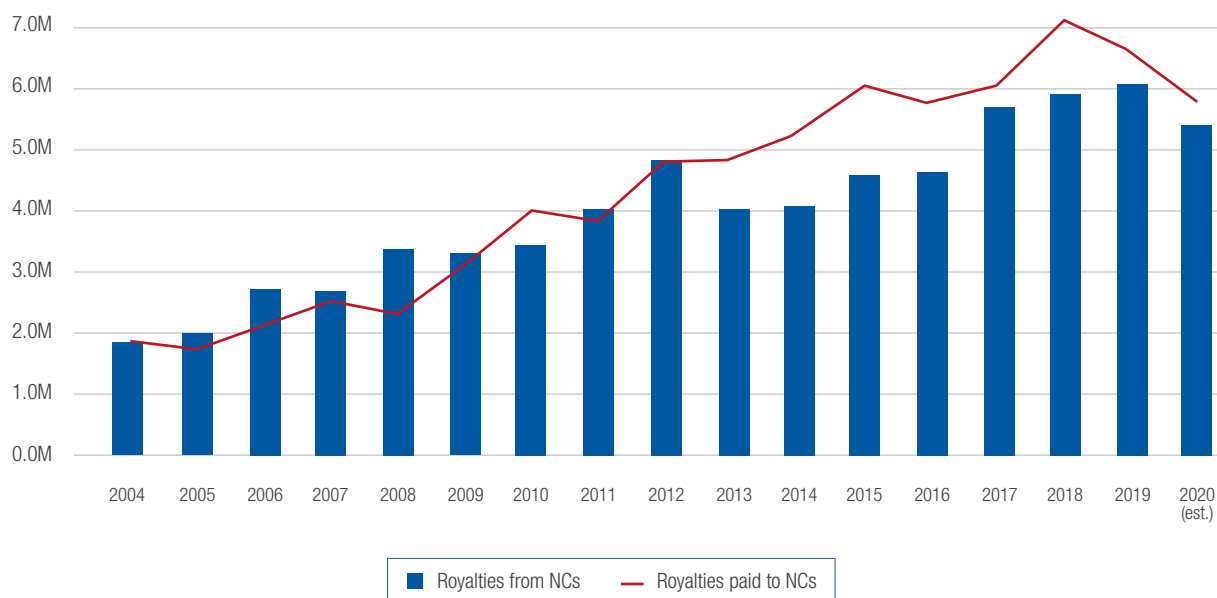


Figure 16 | Royalties paid to and received from National Committees

Royalties collected from NCs and CO-Appointed Resellers

Gross annual royalties received from NCs and IEC CO-Appointed Resellers in 2019 were down by –2,3% compared to 2018. On the other hand, for the first half of 2020, they are significantly up by +24% in comparison to the same period for 2019.

Period July 2019 to June 2020

– Total royalties collected (net):

Royalties collected from NCs and IEC CO-appointed sales outlets

Q3 2019 – Q2 2020	Q3 2018 – Q2 2019
-------------------	-------------------

CHF 10 491 7812	CHF 9 137 136
-----------------	---------------

Change: +14,8%

– Royalties collected from NCs

Royalties collected from NCs:

Q3 2019 – Q2 2020	Q3 2018 – Q2 2019
-------------------	-------------------

CHF 6 706 264	CHF 5 431 194
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Change: +23,5%

The figure below gives an overview of the royalties paid to NCs on IEC CO sales since 2004.

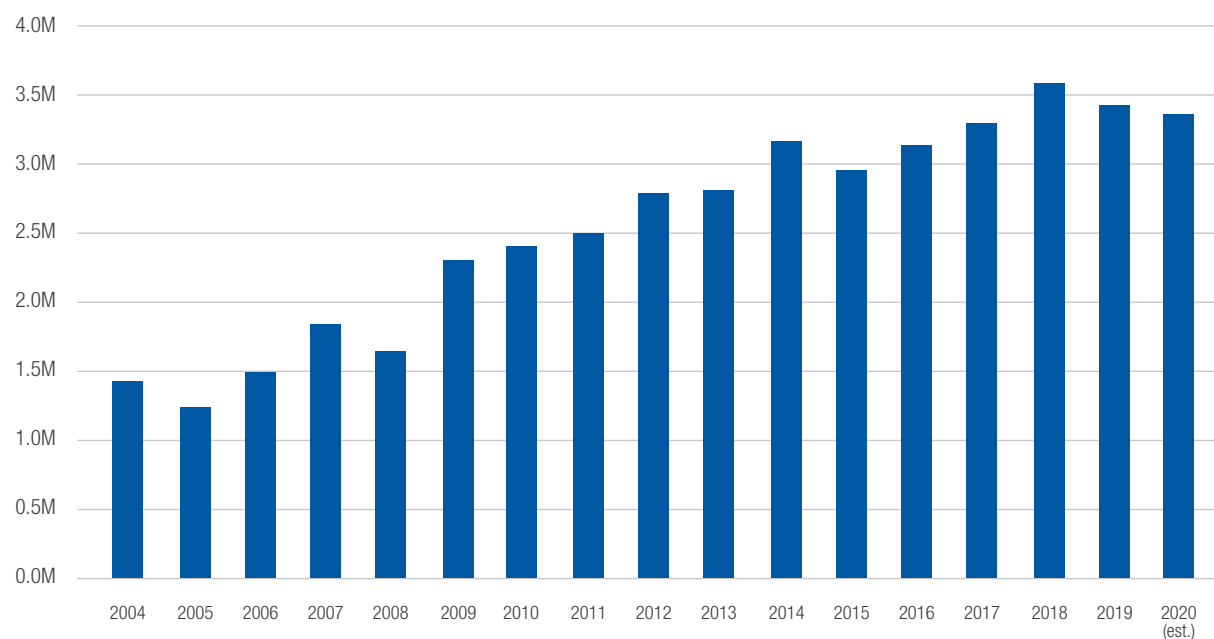


Figure 17 | Royalties to NCs on IEC CO sales

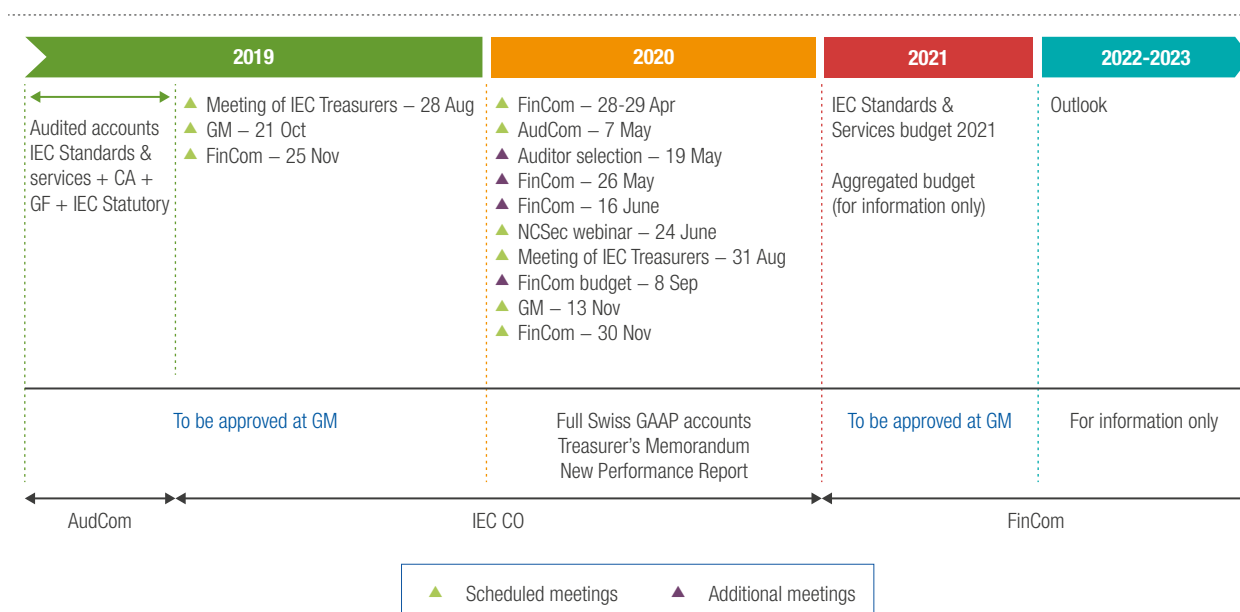


Figure 18 | Financial timeline

8.2 Financial transparency and transition

IEC has continued to respond, in the July 2019 to June 2020 timeframe, to the desire expressed by members at the IEC General Meeting in Vladivostok, Russia, for more transparency in IEC financial reporting. It has reviewed fully its financial approach and financial communications as indicated by the diverse measures outlined below:

- The second formal meeting of the treasurers for IEC and IEC CA Systems was convened by the IEC Treasurer in August 2019. Much increased visibility for IEC CA Systems was noted in the new 2018 IEC statutory accounts under Swiss GAAP, the revised Treasurer's memo and the annual report.
- An additional Audit Committee (AudCom) web meeting was held in September 2019 to review IEC hiring procedures and the IT audit carried out by the statutory auditors, Mazars.
- New revenue generation (NRG) held its second face-to-face meeting in August 2019. Business plans were presented with four projects finally selected and a working group constituted for each project.
- In October 2019, the Treasurer presented the 1 IEC financial concept to Council. NRG held an open session with the four projects selected as having potential to generate additional revenue for IEC being presented.
- At the November 2019 FinCom web meeting, the Treasurer shared his vision for 1 IEC, with the ultimate goal of creating a single budget and set of accounts for the global activities of the organization. Discussion took place regarding the information needed by FinCom about IT projects.
- With the second three-year mandate of IEC auditors, Mazars, terminating at the end of 2019, a call for proposals for new statutory auditors for the period 2020-2022 was launched by the Head of Finance in November and preliminary information sessions for four audit firms were held in December 2019.
- NRG held its third face-to-face meeting in December 2019 with updates on the four projects and a preliminary discussion on IT needs.
- As from March 2020, the Finance Department participated in the close monitoring of the evolution of potential Covid-19 financial effects, with regular evaluations of IEC current financial liquidity and year-to-date results on income, dues, sales and royalties as well as expenditure and the performance of investments.
- A risk management process webinar was provided to FinCom and AudCom members in March 2020.
- NRG held a web meeting March 2020 with project progress updates from each working group.
- The second full set of new Swiss GAAP statutory accounts including comprehensive positions of IEC and IEC CA Systems, condensed IEC financial operational activities of individual IEC business units, a statement of changes in equity, detailed notes and a revised, more comprehensive performance report was finalized in March 2020.
- Collated and compared proposals from potential auditor candidates (2020-2022 period) for AudCom, created timeline and proposal for selection and confirmation process.
- Due to Covid-19, the two-day annual FinCom meeting in April 2020 was held as a web meeting. Regarding the pandemic, the Treasurer outlined the Covid-19 impact assessment and proposed an extended period of reflection (until September) for the 2021 budget due to the uncertainty of the real economic and financial effects of Covid-19.
FinCom welcomed the increased transparency, recognized that IEC was planning to use a substantial amount of its capital and reserves to invest in the Masterplan implementation activities and re-confirmed their recommendation that IEC and IEC CA Systems strive to maintain sufficient capital and reserves to ideally cover one and a half years of operational costs, and at minimum cover one year of operational costs.
- At the annual AudCom meeting in May 2020, held as a web meeting, the auditors Mazars presented the 2019 audited accounts now under new Swiss GAAP accounting standards. AudCom commended the new standards which provided the IEC community with more transparency on IEC finances. A synthesis document on proposals from potential 2020-2022 auditor candidates was discussed with the committee and two final candidates were selected for interview. AudCom members expressed their support and appreciation for the new approach to the Treasurer's memorandum and congratulated IEC CO for their careful management of IEC finances.

- An interview of the two final audit company candidates was held via an additional AudCom web meeting later in May with a panel comprising the AudCom Chair, a second AudCom member, IEC Treasurer, IEC General Secretary, IEC Head of Finance and IEC Chief Financial Officer. One candidate was unanimously selected.
- NRG held a web meeting in June with presentations on project progress from each working group and progress towards the sandbox phase.
- Two additional FinCom web meetings were held to report on any financial risks due to the pandemic ahead of the NC Secretaries webinar. They featured reports and discussion on Covid-19 effect monitoring and mitigation, year-to-date operational results, IT financial reporting, the One IEC concept and the draft budget 2021 and outlooks for 2022-2023.
- The NC Secretaries finance webinar took place in June 2020. The Treasurer explained the approach to the 2021 draft budget in view of the extraordinary circumstances of Covid-19. He also presented the 2019 statutory accounts, explained the new statutory auditor search process with AudCom and the selection of a final candidate. The Treasurer continued with an explanation of the draft scenarios 2021 and outlooks 2022-2023, the 1 IEC concept and the valuable contribution of FinCom.

8.3 IEC Capital & Reserves

The Capital & Reserves of the organization comprise IEC Standards & Services, the guarantee fund and the four components of IEC CA Systems. They serve to protect IEC and its stakeholders against risk, such as a change in market conditions where standards might need to be provided free of charge. They are also used to invest in the future of IEC for all its stakeholders and in the form of the implementation of the previous and new masterplans.

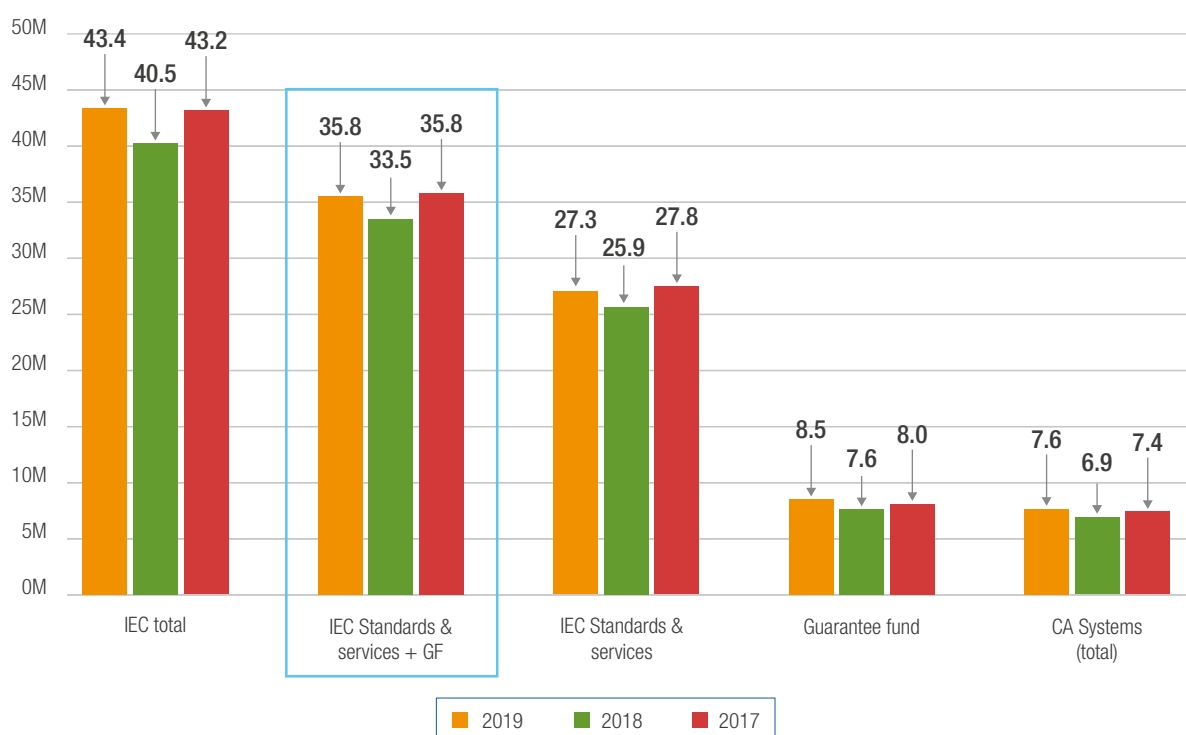


Figure 19 | Capital & Reserves at end December 2019

Ratio of Capital & Reserves against annual spend

As shown in the graph below, the level of Capital & Reserves against annual spend has varied significantly over the past two decades.

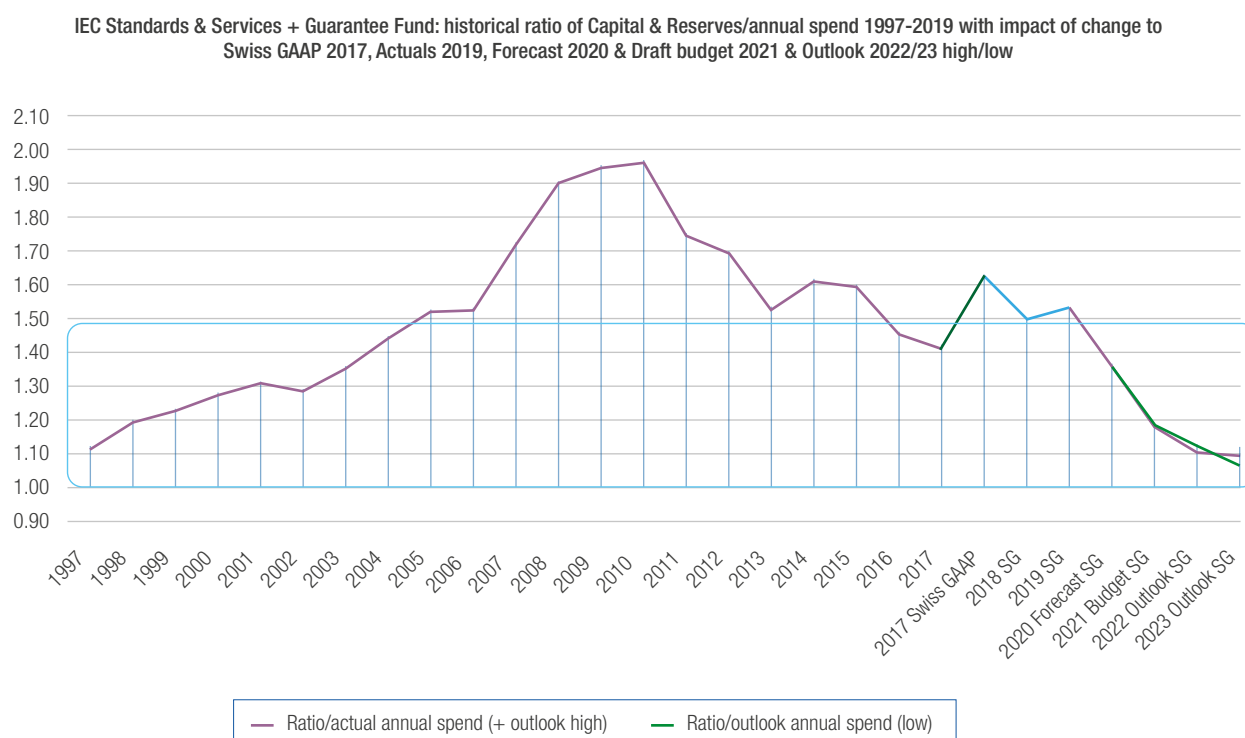


Figure 20 | Ratio of Capital & Reserves against annual spend

The graph of the ratio of Capital & Reserves against annual spend includes reserves for IEC Standards & Services and the guarantee fund but excludes IEC CA Systems. It tracks both the historical evolution of the organization and future projections of necessary investments for the new IEC Masterplan implementation. It also defines the range for the acceptable level of that ratio.

In April 2020, FinCom re-confirmed that the appropriate target level range of capital & reserves should be a ratio of 1,5 (equivalent of one and a half years of IEC Standards & Services spending) with a minimum level of one year.

Given planned substantial future investments in the implementation of the IEC Masterplan, it can be seen that by 2023 the ratio will be approaching that minimum level according to projections. Fundamental discussion is urgently required regarding how to create new, more diversified funding streams to cover the additional expenses and how to replenish the reserves so as to preserve the long-term viability of the IEC eco-system.

8.4 Sales results

8.4.1 Sales results, distribution and events

IEC CO gross sales were 2,9% lower in 2019 compared to 2018, for a total of CHF 6,26 million. At the end of July 2020, IEC CO sales are down compared to the same period last year (–5%).

8.4.2 IEC Webstore

In 2019, the IEC Webstore sales slowed down with gross sales down 0,86% compared to 2018. However, it was still the second-best year ever.

In 2020, the IEC Webstore sales were impacted by the Covid-19 pandemic, in particular during April and May. At the end of July, sales were down 12,4% compared to the same period last year.

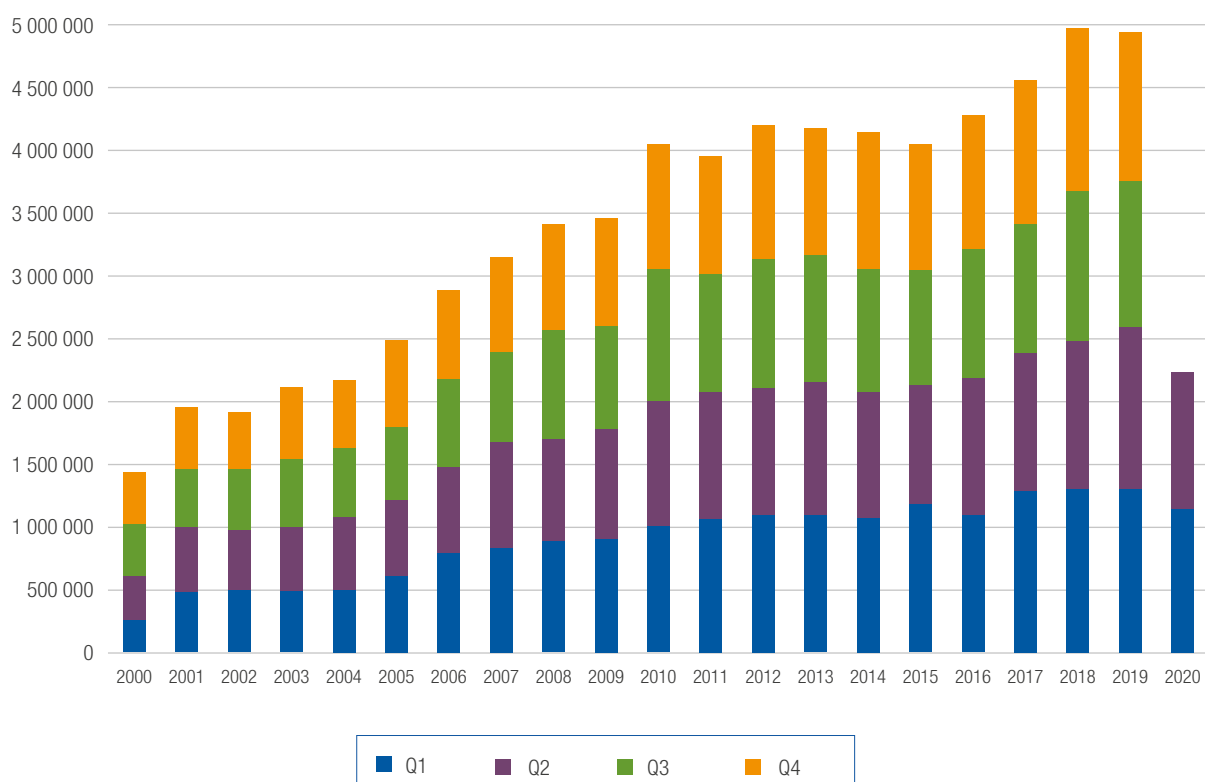


Figure 21 | IEC Webstore sales (2000 - 2020)

IEC Online Collections

The IEC Online Collections was launched in April 2020, offering a powerful search engine, free access to complete collection previews, personalized bookmarks, favourites function, comments creation and management. Subscriptions can be tailored to match end-users needs: thematic collections, personalized selection of technical committees and personalized selection of IEC publications.

The platform will become the backbone of IEC product distribution and libraries for NCs. It is also available for NCs willing to sell subscriptions to IEC publications.

8.4.3 IEC CO sales by TC/SCs

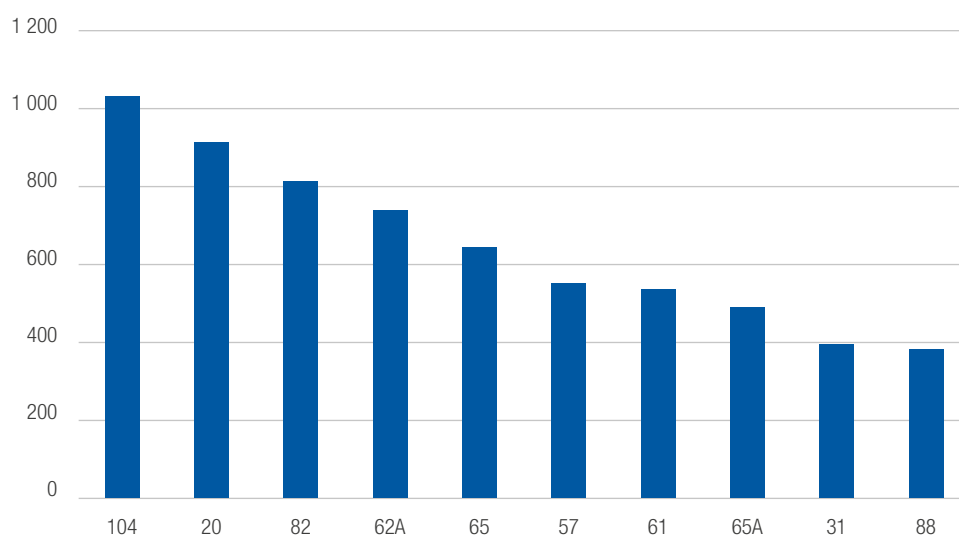


Figure 22 | IEC CO sales by TC/SCs (Q3 2019 to Q2 2020)

8.4.4 IEC CO bestsellers by publication number

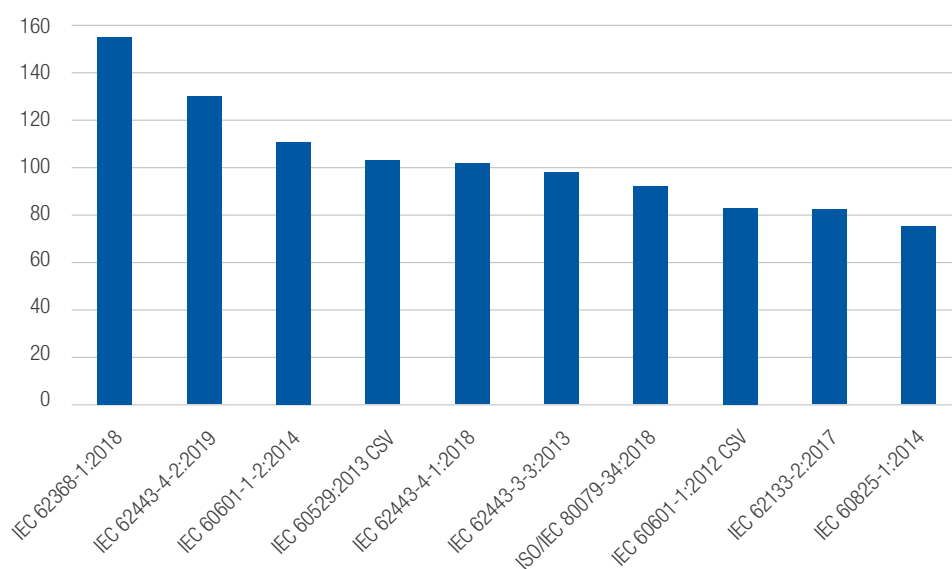


Figure 23 | IEC CO bestsellers by publication number (Q3 2019 to Q2 2020)

8.4.5 Events

In October 2019, customer visits and a stakeholder event were organized in Japan. According to participants, the lecture and discussion were very informative and they appreciated the direct interaction.

In November 2019, the Technology and Business forum took place in the United States and was attended by a record number of participants from nearly 30 different worldwide organizations. The forum focussed on standards of the future, AI and machine learning.

In February 2020, the Standards Publishing Advisory Board meeting took place in the United States with more than 110 participants from 50 different worldwide organizations in attendance. The meeting focussed on engaging with young professionals, IP & licensing conditions and industry 4.0.

9 Conformity assessment

9.1 CA governance

Since the last activity report CAB held meetings during the IEC General Meeting 2019 and, for the first time, in a virtual meeting where it took a total of 60 decisions. In addition, CAB took a further nine decisions by correspondence. Decisions are primarily based on reports and recommendations from the IEC CA Systems and CAB subgroups.

CAB also receives requests from IEC governing bodies, such as the IEC CB, ExCo, FinCom and IEC Council. Requests have recently been made by FinCom and the IEC Masterplan implementation plan has required action. CAB has also been involved in discussions with the IEC IGTF.

9.2 CAB activities

The IEC Council, through the Council Board, has delegated to the CAB the responsibility to manage the conformity assessment activities of the IEC.

The four IEC CA Systems, IECEE, IECEX, IECQ and IECRE, provide the operations of the IEC CA activities. The CAB approves the Basic Rules for these CA Systems, and their annual budgets, and then delegates their daily operations to their respective secretariats. The IEC CA Systems submit reports to CAB on a bi-annual basis, specifying issues for CAB discussion or decision when necessary. CAB then takes relevant decisions and issues appropriate tasks as needed.

CAB also has a number of subgroups which submit reports to its two annual meetings. The Covid-19 pandemic has caused difficulties in moving forward with projects due to the limitations in travel and in-person meetings. Nevertheless, work has advanced.

CAB Working Group 10: Policy and strategy, has been working on the IEC Masterplan implementation plan list of actions in accordance with the timeline established by the CB TF. WG 10 is also tasked to develop IEC CA Directives which will formally define roles and responsibilities, processes and procedures, and establish best-practice processes for bringing new CA services online efficiently, making them sustainable quickly.

CAB Working Group 11: CA systems' issues, is a working group that works closely with the IEC CA Systems to help advise on matters such as the harmonization of rules and procedure. The Harmonized Basic Rules (HBR) which replaced separate individual CA Systems basic rules, was an output from this working group in 2016. Over the past year WG 11 has further adjusted those [HBR](#) and reviewed the IEC CA Systems Supplements to the HBR.

CAB Working Group 14: Promotion, has, during last year, mainly focused on producing a number of webinars on IEC CA topics. A promotional matrix, [IEC CAB-PM01](#), was created by WG 14 in 2016 to provide IEC NCs with a basis for providing consistent and meaningful messaging to target audiences concerning conformity assessment. Each audience has different drivers and requires a tailored message. WG 14 is currently in the process of updating the promotional matrix.

CAB Working Group 18: New CA services radar, has identified and created a list of potential market sectors and topics that may require global CA services in the future. The list is updated yearly and is part of an early warning and tracking system for market and

society needs. It will become part of a process that can identify market needs, track their evolution and development (in discussions with the market stakeholders), take a business decision whether to establish a new CA service(s), and manage an incubation and start-up phase to breakeven and sustainability. The CAB WG 10 is developing an IEC CA Directives document to provide guidelines for this process. Based on the experience from the previous year and the initial feedback, the updating process of the CA services radar list is currently being revised.

9.3 IEC CA Systems activities

9.3.1 IECEE

IECEE (System for Conformity Assessment Schemes for Electrotechnical Equipment and Components) is a multilateral certification system based on IEC International Standards. IECEE Schemes address the safety, quality, efficiency and overall performance of components, devices and equipment for home, offices, workshops, health facilities, among others. IECEE covers 23 categories of electrical and electronic equipment and testing services.

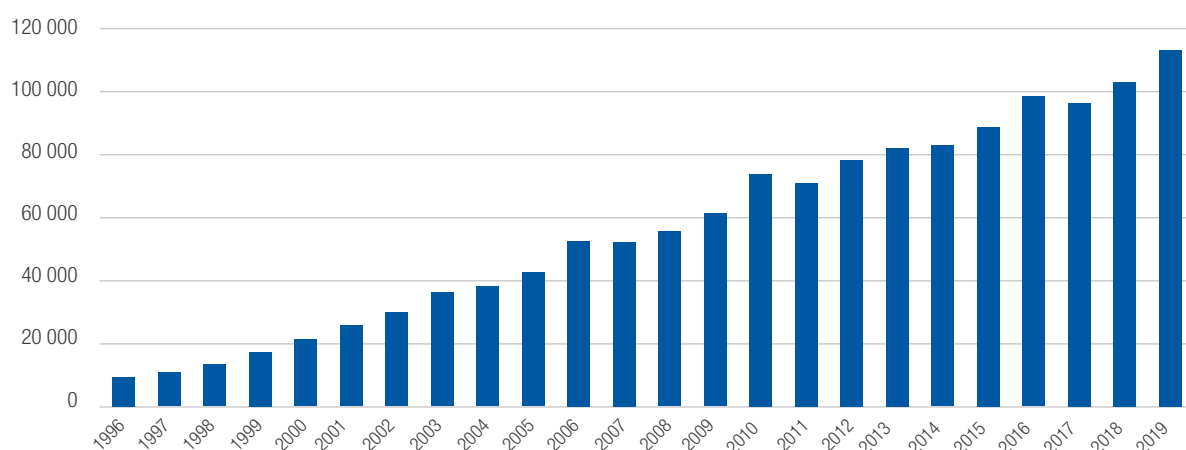


Figure 24 | IECEE CB certificates issues (1996-2019)

- 54 participating countries (member bodies)
- 89 national certification bodies (NCB)
- 529 testing laboratories (CBTL)
- Over 2 000 client testing facilities (CTF)
- Over 110 000 CB test certificates issued (year-end 2019)

Peer assessment

IECEE member bodies approved the timeline to implement the new edition of [ISO/IEC 17025](#) into the IECEE peer assessment process. Many certification bodies and testing laboratories (CBTLs) are already being assessed by both the IECEE peer assessors and the accreditation body of the CBTL.

To qualify new peer assessors and to maintain the qualification of our existing peer assessors, the IECEE lead and technical assessor training programme took place in Turkey in September 2019 for assessors primarily based in the European region. The switchover to the new edition of ISO/IEC 17025 was a key element of the training session.

The 2020 training programme initially scheduled to take place in Japan in September has been postponed to 2021. In the interim, a condensed self-study programme will be offered. Considerations are also being given to finding an alternative handling of the peer assessment process during a period of travel restrictions.

Functional safety

Based on an expressed need by industry, IECEE established a new programme to define market relevant solutions and services related to functional safety in the IECEE certification bodies (CB) scheme. The programme limits the focus of the new proposed functional safety programme to a scope of three standards: IEC 60947-5-3 and IEC 60947-5-5 related to discrete hardware only and IEC 61800-5-2 addressing safe torque off function related to discrete hardware only

The IECEE Certification Management Committee (CMC) has approved the new programme. Certification bodies and laboratories are currently updating their scopes to include these standards. The focus on IEC 61508 and other derived functional safety standards will be considered at a future stage.

Cyber security

The IECEE has developed a testing and certification programme to address the expanding need for conformity assessment solutions related to cyber security in the industrial automation sector. The service provides a framework for assessments in accordance with the IEC 62443 series of standards on security for industrial automation and control systems. This will result in an IECEE certificate of conformity – industrial cyber security capability.

The assessment of conformance to IEC 62443 consists of the evaluation of an applicant's security capabilities which are used to develop, integrate and/or maintain specific products or solutions. Two evaluations can be conducted:

- to evaluate an applicant's ability to provide IEC 62443 compliant security capabilities
- to evaluate that IEC 62443 compliant security capabilities have been applied to either a specific product, automation solution or industrial automation control system.

CAB has recommended to the SMB that IEC 62443 becomes a base standard and, therefore, applicable across other industries and sectors.

Time sensitive networks

At the request of industry, and in coordination with representatives of SC 65C: Industrial automation, preliminary discussions are underway related to potential IECEE services for testing and certification harmonization for time sensitive networks (TSN) based upon the upcoming IEC/IEEE 60802, and the potential for partnership with IEEE for such a programme.

Certification of personnel competency

With the advent of increased human-machine interfaces (HMI) and the expansion of artificial intelligence (AI) as well as the use of robotics in both the industrial and commercial arenas, the need for risk mitigation is amplified. In this context, engineers have to be able to evaluate risks and access the methodologies that will enable them to test and certify the safety and functionality of such equipment and systems.

Based on this need to have qualified personnel conducting the evaluations of the functional safety of industrial installations and equipment, IECEE is developing a conformity assessment market solution. The final elements being considered before roll-out are:

- Market analysis
- Development of documentation and prioritization of the different aspects of personnel certification.

Business continuity

Considering the current difficult times due to the Covid-19 outbreak, IECEE leadership together with the IEC management team continues to successfully monitor and modify processes to ensure business continuity with minimum disruptions. The IECEE Chair and the Executive Secretary have conducted an impact analysis on IECEE business and presented the results to FinCom.

The IECEE committee for testing laboratories (CTL) meeting scheduled to take place in Cologne in March 2020 has been converted to an online meeting which will take place in August.

9.3.2 IECEX

[IECEX](#) (IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres) operates the only global online certificate system dedicated to the Ex sector. It allows instant verification of claims of compliance of certificates issued by more than 100 IECEX certification bodies (ExCBs) in 35 member countries. IECEX certificates of conformity assessment are issued via the following schemes:

- IECEX certified equipment scheme (requires sample testing, factory audit and ongoing factory audits)
- IECEX certified services scheme
- IECEX certification of personnel competence scheme
- IECEX conformity mark licensing scheme

As of 30 June 2020, there were 108 969 issued IECEX reports, certificates and licenses across all the four IECEX Schemes compared with 92 513 issued for the same period last year (as of 30 June 2019) thus representing an overall growth of 17,8%.

During this period, IECEX saw a marked growth in certification of non-electrical (mechanical) equipment via the [ISO 80079](#) series of standards.

Cooperation with IEC TC 31

IECEX cooperation with [IEC TC 31](#) has become closer with TC 31 taking a proactive role in the development of IECEX decision sheets.

Business continuity

The IECEX secretariat supported by the Executive of the IECEX System considered the potential impact caused by the Covid-19 travel restrictions, in January and February 2020, ahead of the declared pandemic by WHO. As a result, new procedures were developed and introduced in late February to address business continuity of IECEX and certification bodies issuing and maintaining IECEX certificates during the pandemic. These new procedures were published as [IECEX OD 060](#), *Management of extraordinary circumstances or events affecting IECEX certification schemes and activities to ensure business continuity*. These new procedures address both

- continuation of the IECEX peer assessment covering qualification and re-qualification of certification bodies and testing laboratories; and
- the ability for certification bodies to issue IECEX certificates and maintain their surveillance requirements

IECEX continues to provide regular reports to FinCom and is pleased to note that at end June 2020 there has been no adverse impact to the IECEX business in terms of membership and revenue.

The IECEX OD 060 procedures were updated and revised in July 2020 based on feedback received, and while reported to CAB, are set for ratification during the October 2020 IECEX management committee meeting.

IECEX Conformity Mark

Work is underway to modify the current IEC conformity mark license scheme. The IECEX Management Committee has decided to change the scheme procedures and the mark design so as to better cater to the needs of industry and the IEC. Legal advice has been provided to address the coexistence agreement regarding the IEC trademark. The draft of the mark regulations, rules, operational procedures and terms & conditions are currently under review.

Conflicting national regulations

Concern is mounting over the introduction of national regulations that has the potential to conflict with IECEX rules on mutual recognition. This issue was discussed during the 2019 IECEX annual meetings in Dubai where it was agreed that the secretariat conduct a simple survey of member countries on the level of use of IECEX certificates and reports. Results of the survey are to be discussed at the 2020 October meeting of the IECEX management committee.

Meetings and events

→ IECEX 2019 annual meeting

The 2019 annual meetings which took place in Dubai in September were a big success for the continued operation of IECEX. It included an industry conference as well as many private meetings between the IECEX Secretariat and IECEX member bodies to discuss national issues and IECEX commitments.

→ IECEX 2020 annual meetings

IECEX 2020 annual meetings have been transformed to remote meetings due to Covid-19 and are set to commence at the end of September 2020. IECEX currently has offers for the hosting of future IECEX annual meetings up until 2024, thus demonstrating the level of interest in IECEX activities.

→ ESMA training session

Following the 2019 annual meetings, the IECEX Executive Secretary ran a full day training session in Dubai for Emirates Authority for Standardization and Metrology (ESMA) staff and stakeholders to assist them in the implementation of new regulations governing Ex products and making use of IECEX.

9.3.3 IECQ

IECQ (IEC Quality Assessment System for Electronic Components) is a worldwide approval and certification system that covers the supply, assembly, associated materials and processes of a large variety of electronic components that are used in millions of devices and systems. IECQ provides manufacturers with independent verification that the requirements in IEC International Standards and other specifications were met by suppliers who hold an IECQ certification.

IECQ operates two core schemes (IECQ approved component scheme and IECQ approved process scheme) along with specific sector schemes (i.e. avionics, hazardous substances) with a focus on supply chain management

As of April 2020, there were a total of 9 080 certificates issued across all IECQ schemes (compared to 8 054 for the same period last year), with the IECQ hazardous substance process management scheme (HSPM) continuing to dominate activity in 2020.

IECQ certifications are held by companies across 41 countries worldwide.

New services

IECQ is implementing the decisions from the April 2019 annual meeting which approved the following new services:

- [IECQ certification to ISO/IEC 27001](#), *Information Technology – Security techniques – Information security management systems – Requirements* launched at the end of 2019 in cooperation with IECEE.
- [IECQ certification to ISO 19443](#), *IEC quality assessment systems for electronic components (IECQ System) – Operational*

document – Application of ISO 19443 for issuing IECQ products and services ITNS approved process certification of ISO 9001:2015 by organization in the supply chain of the nuclear energy sector supplying products and services important to nuclear safety has operational documents and standardized checklists approved for use.

A green approach

The IECQ working group dedicated to environmental conformity assessment issues has begun initial work in the area of an environmental declaration register in association with [IEC TC 105](#): Fuel cell technologies. A meeting was also held with officers from [IEC TC 111](#): Environmental standardization in Geneva, Switzerland in February 2020.

IECQ Hub

The [IECQ Hub](#) offers a secure social media platform for IECQ user groups. Following the success of the IECQ Avionics Users Forum ([AUF](#)), which is currently comprised of nine specialist technical forums, explorations are underway to launch the service to other sectors.

Counterfeit certification

Investigations are underway of certification bodies which are not part of IECQ issuing certificates claiming to be IECQ hazardous substance process management ([HSPM](#)) certificates.

Meetings and events

The IECQ 2020 annual meetings were scheduled to take place in Australia but were converted to remote meetings due to Covid-19. A number of experts working group meetings took place alongside the week-long annual event.

A one-day training session on IECQ schemes took place in Dubai with a focus on HSPM certification which is attracting interest given the increase in national restriction of hazardous substances (RoHS) legislation. IECQ is providing support to the United Arab Emirates to adapt their national regulations on hazardous substances to IECQ HSPM. As a result, United Arab Emirates has applied to join IECQ as a participating member country.

Private meetings are underway with the Russia Federation regarding the renewal of their activity in IECQ due to Eurasia Customs Union regulations on hazardous substances

Business continuity

Similar to IECEx, the IECQ secretariat supported by the Executive of the IECQ System considered the potential impact caused by the Covid-19 travel restrictions, in January and February 2020, ahead of the declared pandemic by WHO. As a result, new procedures were developed and introduced in late February to address business continuity of IECQ and certification bodies issuing and maintaining IECQ certificates during the pandemic. These new procedures were published as IECQ OD 201: Management of extraordinary events and circumstances to ensure business continuity of IECQ operations. IECQ continues to provide regular reports to FinCom and is pleased to note that as of the end of June 2020 there has been no adverse impact to the IECQ business. These new procedures address both

- continuation of the IECQ peer assessment covering qualification and re-qualification of certification bodies, and
- the ability for certification bodies to issue IECQ certificates and maintain their surveillance requirements

The new procedures were ratified during the April 2020 meeting of the IECQ Management Committee and reported to CAB.

9.3.4 IECRE

IECRE (IEC System for Certification to Standards Relating to Equipment for Use in Renewable Energy Applications) is the most recently established IEC CA System. It currently includes three renewable energy sectors: marine energy, solar PV energy and wind energy.

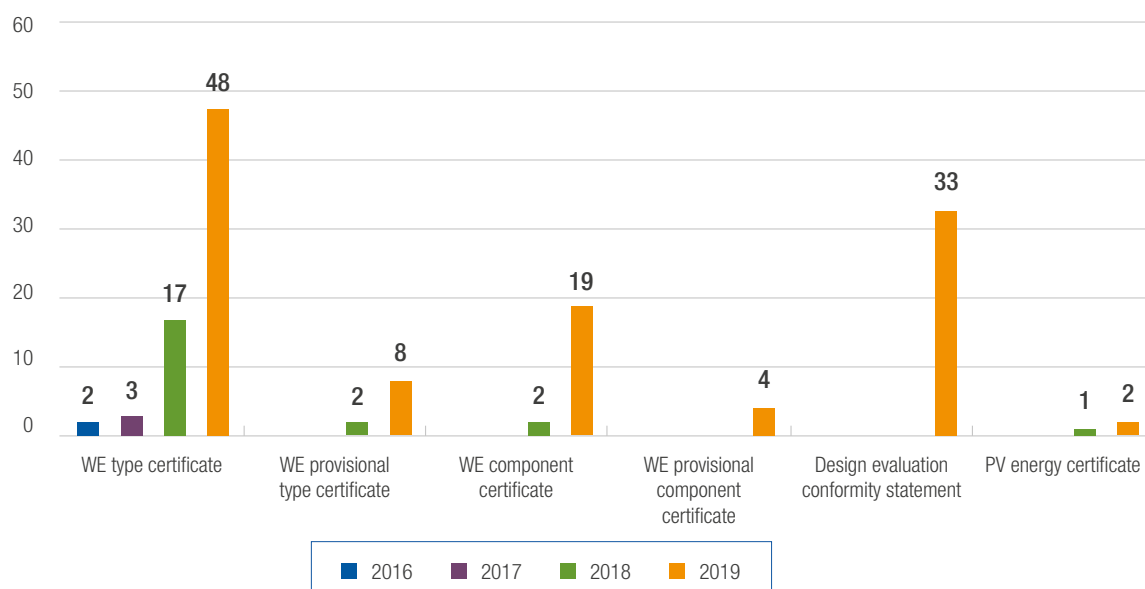


Figure 25 | IECRE certificates

- 14 participating countries (Member Bodies)
- 11 individual IECRE certification bodies (RECB), with 9 wind; 4 PV; 0 marine
- 30 testing laboratories (RETL), with 29 wind and 1 PV
- 4 inspection bodies (REIB), all PV related
- 1 customer test facility in the wind sector

Parts of the IECRE global database have been developed and data entry is underway.

Wind sector

The wind sector is fully operational with nine RE certification bodies (RECBs), and more currently being assessed for participation, as well as 29 RE testing laboratories (RETLs) authorized to conduct testing and certification of wind turbines, their components and/or wind farms.

The IECRE had 114 certificates issued for wind turbines at the end of 2019, a significant increase from the 22 certificates issued the previous year.

The IECRE wind sector working group ([WE-SWG](#)) and stakeholders group meetings planned to take place in Chennai were transferred online due to the travel restrictions following the Covid-19 outbreak. Nevertheless, the working programme has been completed.

PV sector

It has been indicated that the PV deliverables are not desirable in the marketplace and/or too costly to implement by potential customers of the RECBs/RE inspection bodies (REIB). These issues continue to threaten the IECRE System as a whole since a number of members bodies and RECBs/REIBs have indicated that they may need to withdraw from the IECRE due to lack of business.

Of the previous seven RECBs, three have withdrawn as have the four REIBs. Three countries are currently participating with approved RECBs/REIBs (China, Spain and US). The first certificates have been issued for the PV sector.

Marine energy sector

The marine energy sector has developed the necessary testing and certification documentation to operate a successful conformity assessment scheme once the standards are published. The first RETL has been accepted to operate in IECRE.

Business continuity

Given the current difficulties caused by the Covid-19 outbreak, the IECRE leadership team, together with the IEC management team, successfully monitored and modified processes to ensure business continuity with minimal disruptions. The IECRE Chair and Executive Secretary conducted an impact analysis of Covid-19 on IECRE business which was presented to FinCom.

An IECRE task group developed a concept for the continuation of peer assessments during the period of travel restrictions, which has been approved by the IECRE member bodies.

10 Standardization work

A total of 596 publications were produced from July 2019 to June 2020. From this total, 44% were new projects and 56% were updates or maintenance.

As of 30 June 2020, the IEC had more than 10 000 publications in its catalogue (including those produced outside of IEC CO e.g. ISO/IEC JTC 1).

10.1 Ensuring business continuity for standardization activities

Despite the Covid-19 pandemic, standardization activities have continued and the number of publications or pages published in 2020 remains relatively consistent with previous years. The pandemic has resulted in the cancellation or postponement of some technical meetings, although the majority have been converted to online meetings.

IEC CO main actions to support business continuity for standardization:

- Support TC/SC/SyCs as they convert working group meetings online and ensure that drafts are prepared, and comments are resolved
- Close contact with the TC/SC Secretaries to ensure that IEC CO receives the documents (CDs, CDVs, and FDISs) in time for circulation
- Monitor of late projects
- Convert TC/SC/SyC plenary meetings online and reschedule meetings planned to take place in conjunction with the IEC 2020 General Meeting

For the period 1 July 2018 to 30 June 2019, the average time needed to develop IEC publications was 33 months.

10.2 Development time for publications

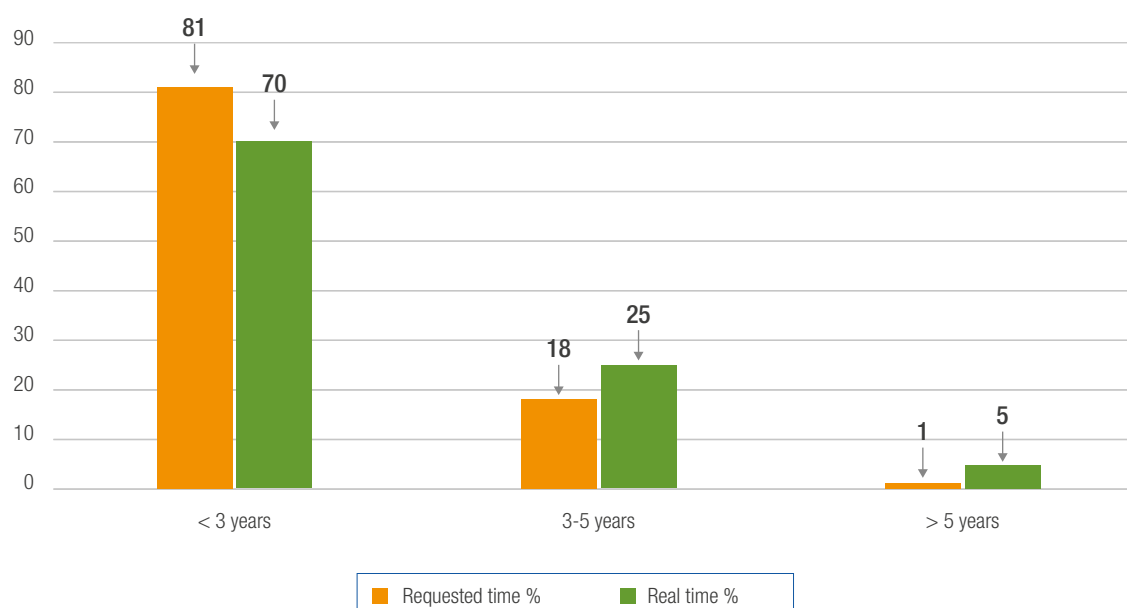


Figure 26 | Average development time for all industry sectors

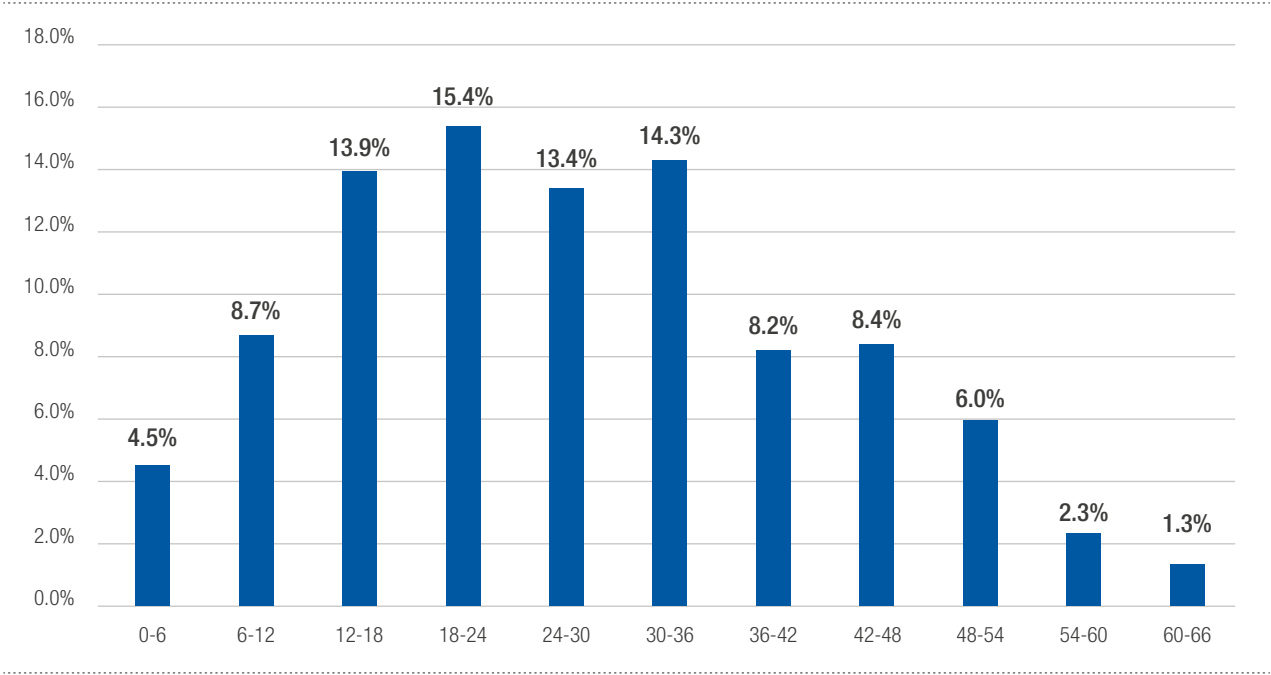


Figure 27 | Breakdown of projects by development time in months (projects published between July 2019 and June 2020)

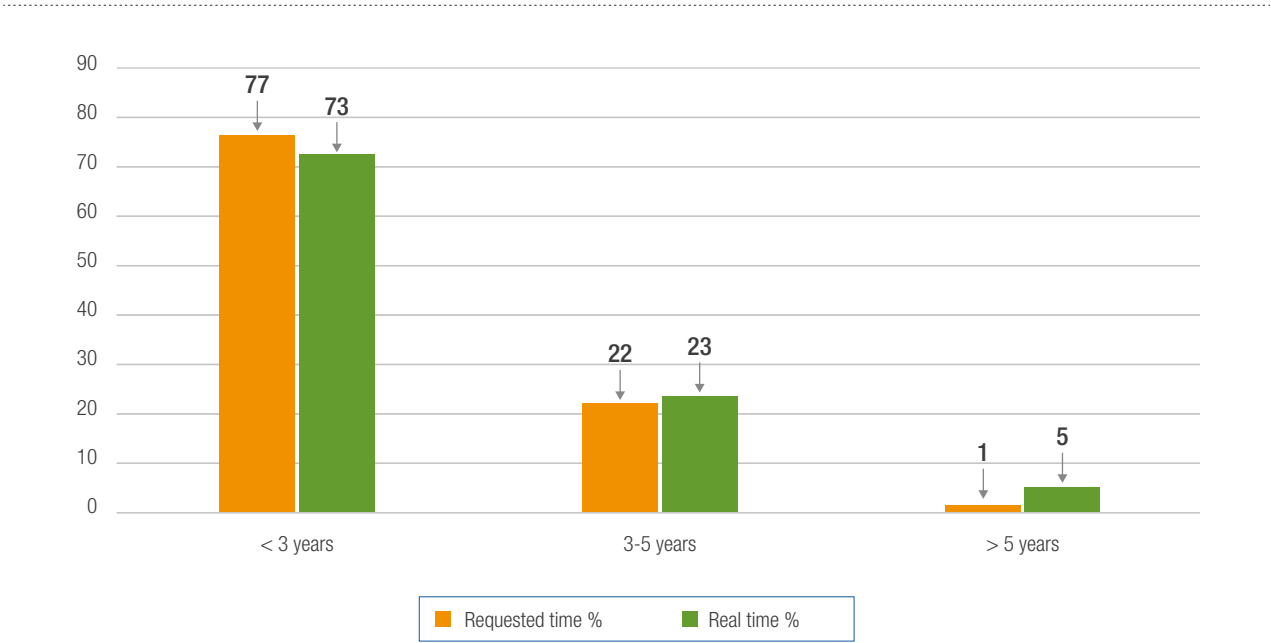


Figure 28 | Average development time – General electrotechnology

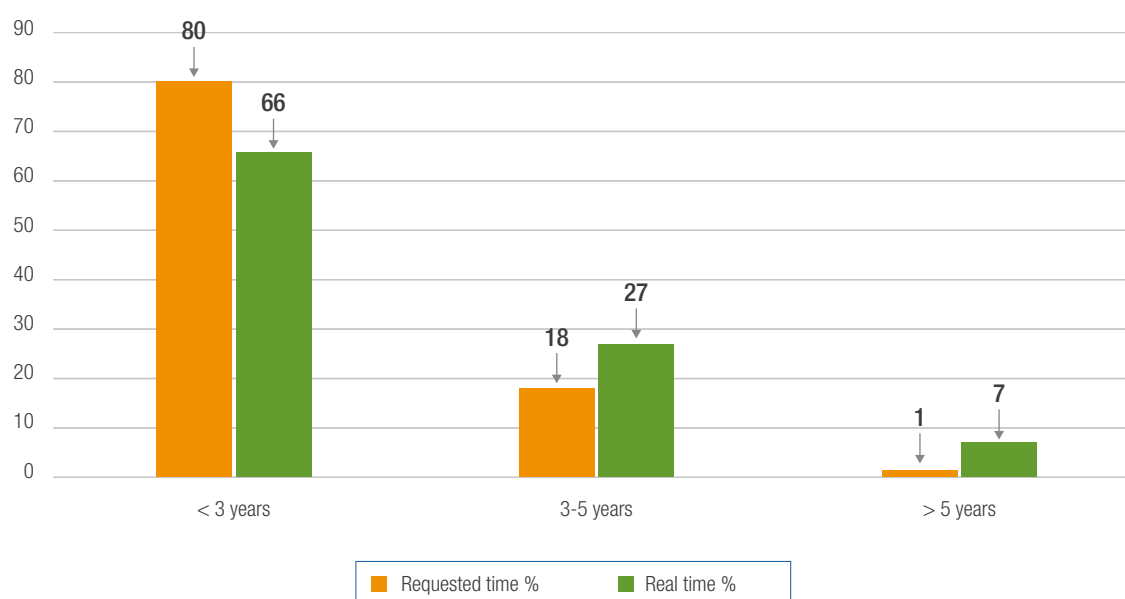


Figure 29 | Average development time – Electronics

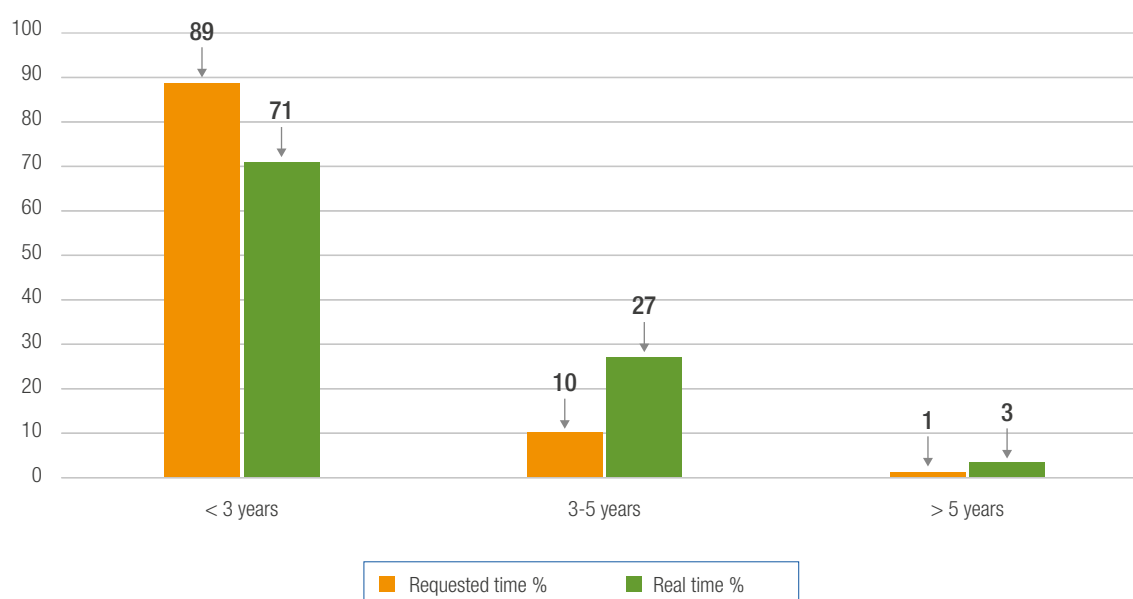


Figure 30 | Average development time – Safety, measurement and consumer goods

10.3 Average development time for FDISs

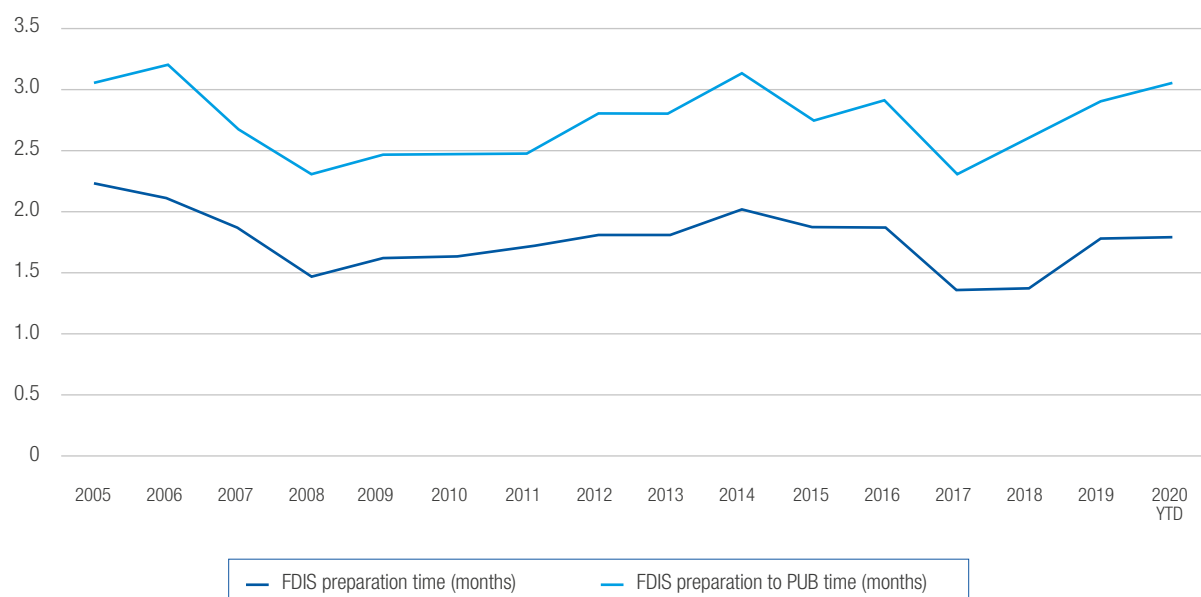


Figure 31 | Average time (in months) to develop FDISs and final publications (2005-2020 Q1/Q2)

10.4 Circulation of CDVs and FDISs

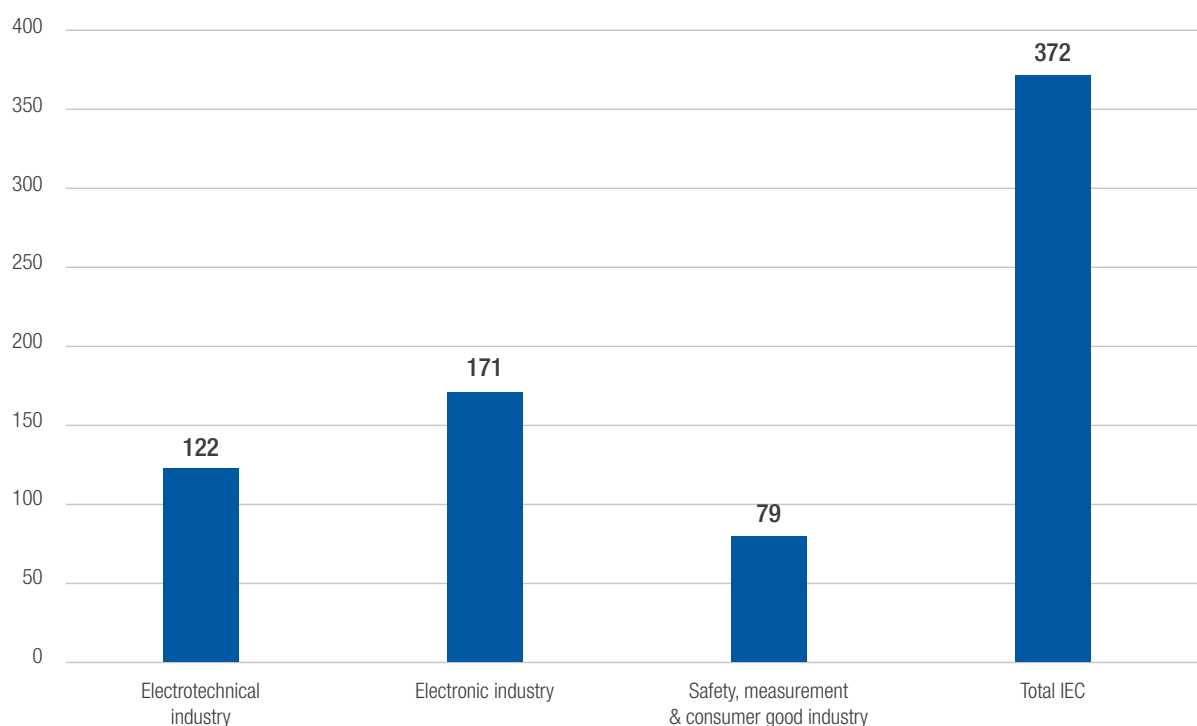


Figure 32 | Number of circulated CDVs by industry sector

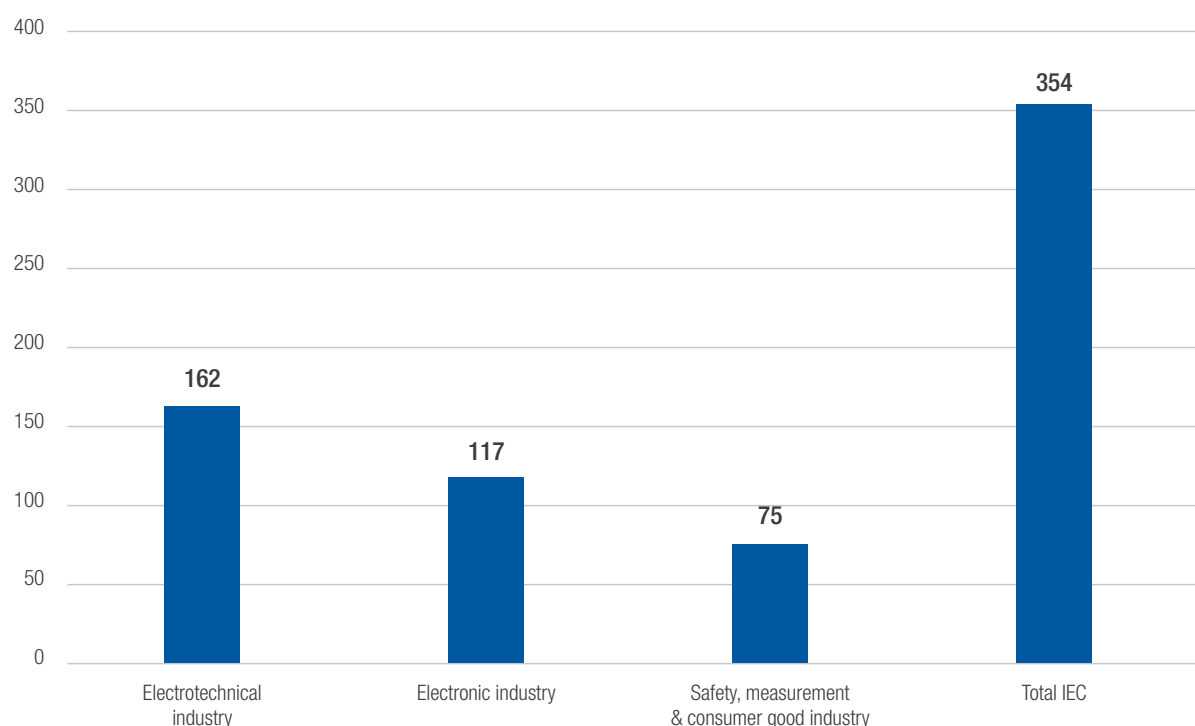


Figure 33 | Number of circulated FDIs by industry sector

10.5 Production of publications

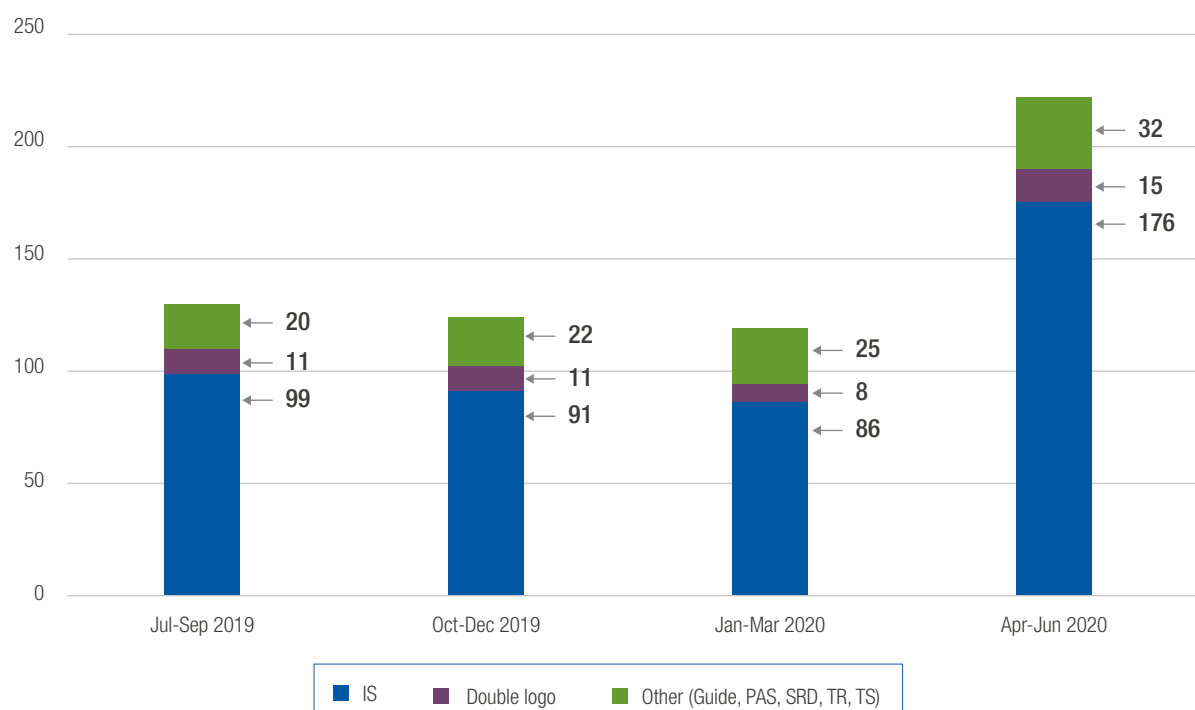


Figure 34 | Number of publications issued (Q3 2019 to Q2 2020)

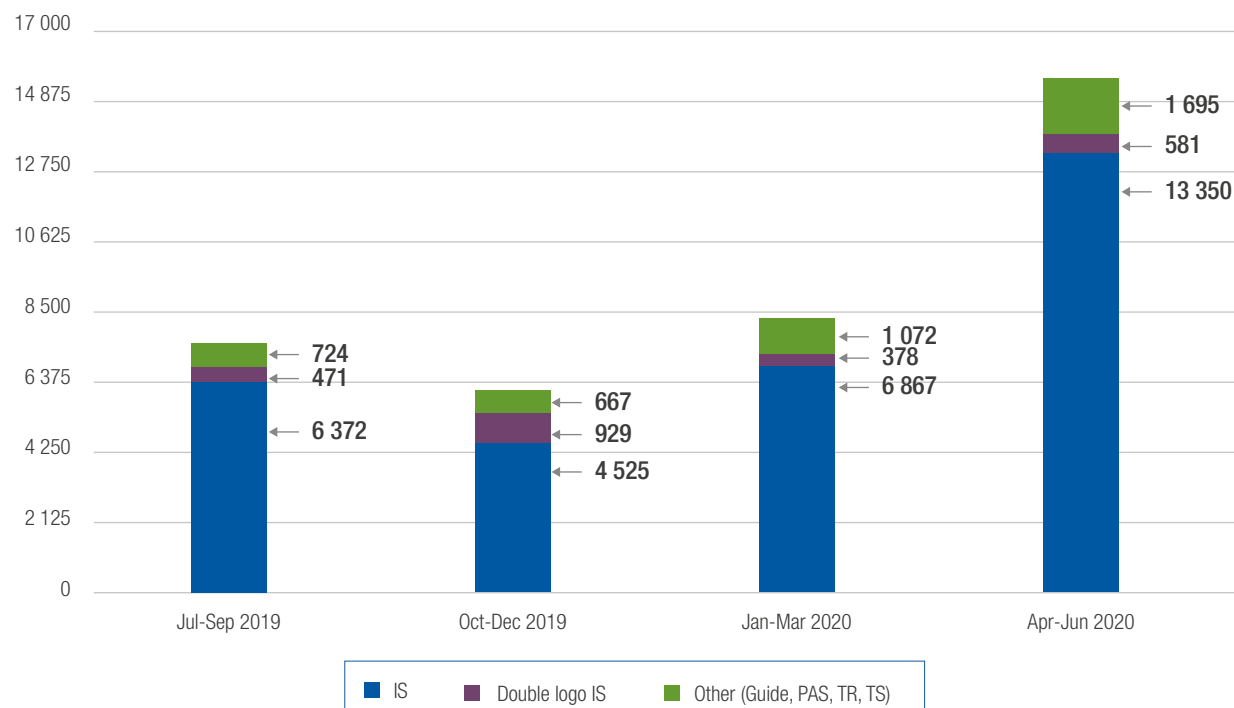


Figure 35 | Number of pages published (Q3 2019 to Q2 2020)

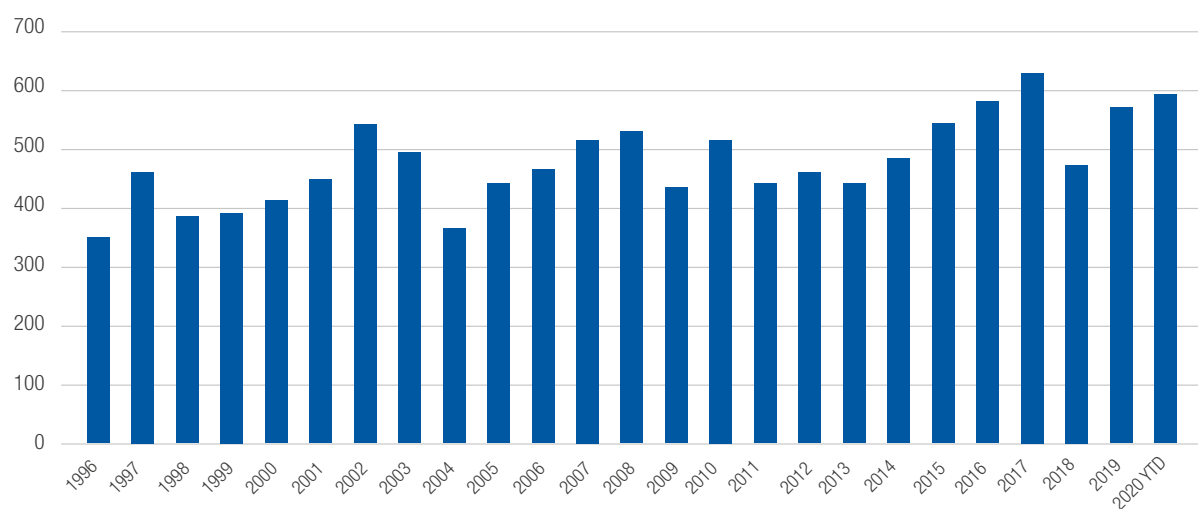


Figure 36 | Total number of publications issued (1996 to 20 June 2020)

10.6 Production of publications by TCs

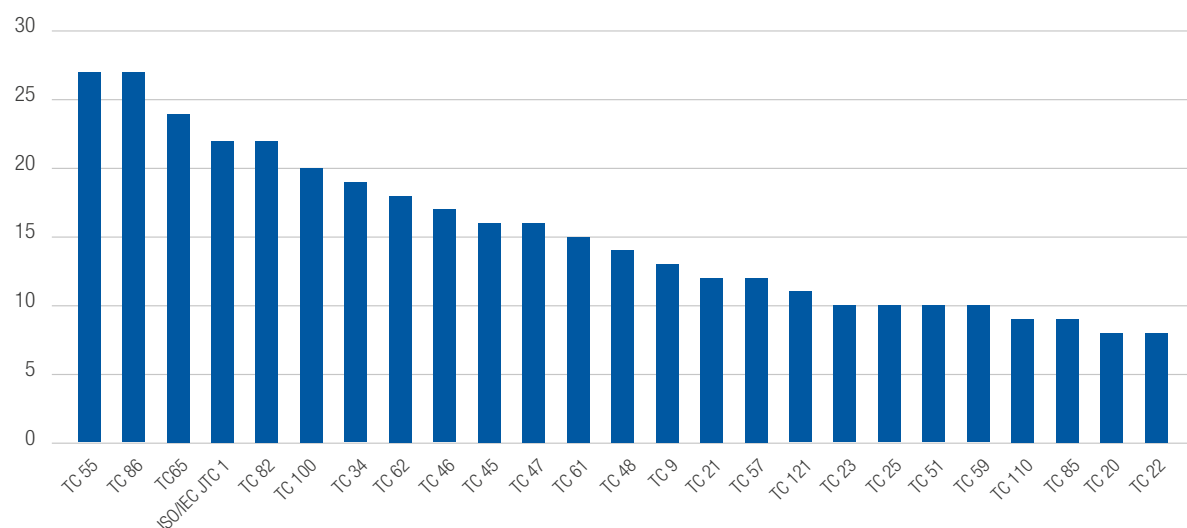


Figure 37 | Number of publications issued by TCs

10.7 New work items

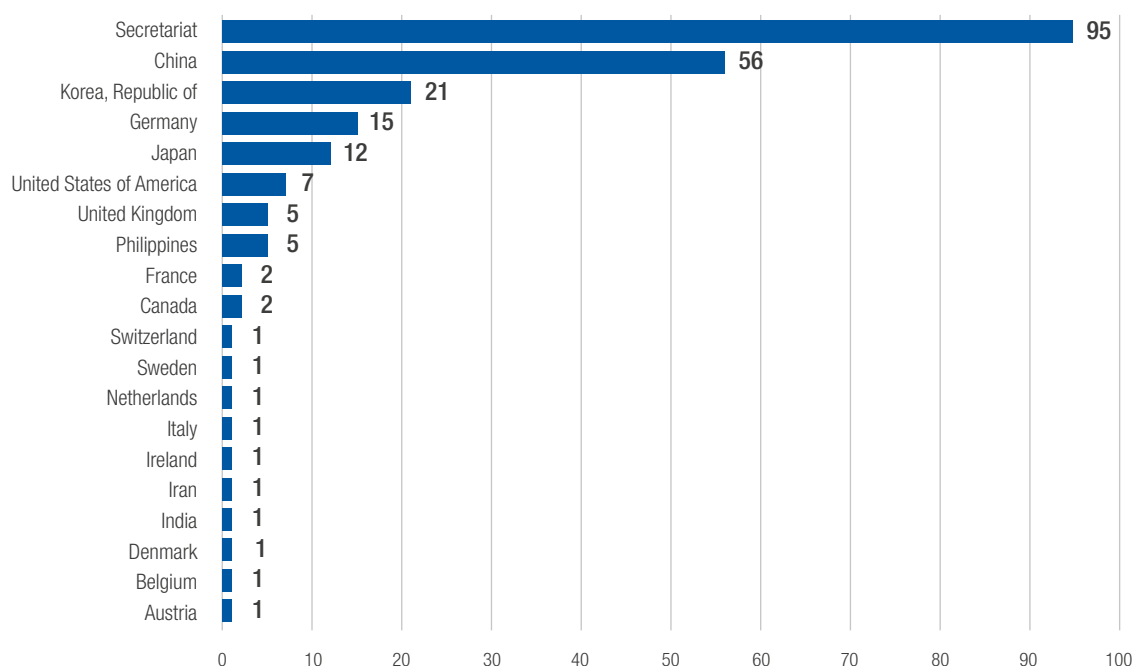


Figure 38 | NPs by proposers (TC secretariats, including system committees, and NCs)

10.8 New work items by industry sector

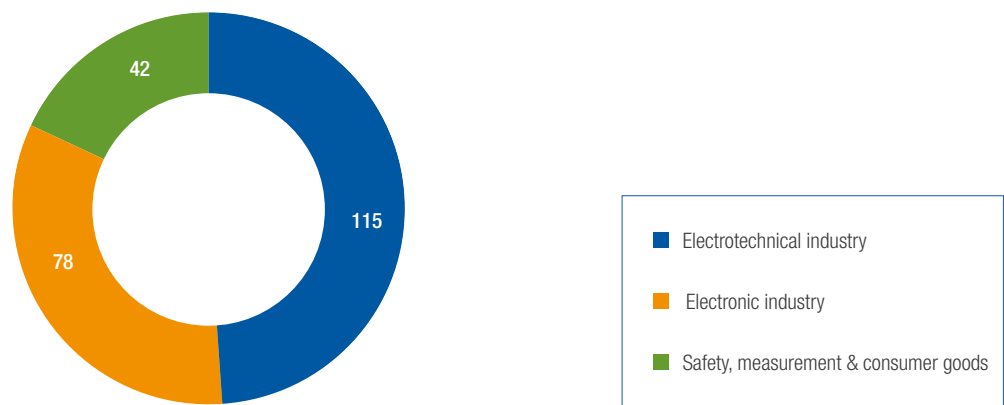


Figure 39 | New proposals for standards by industry sector

10.9 New projects vs maintenance

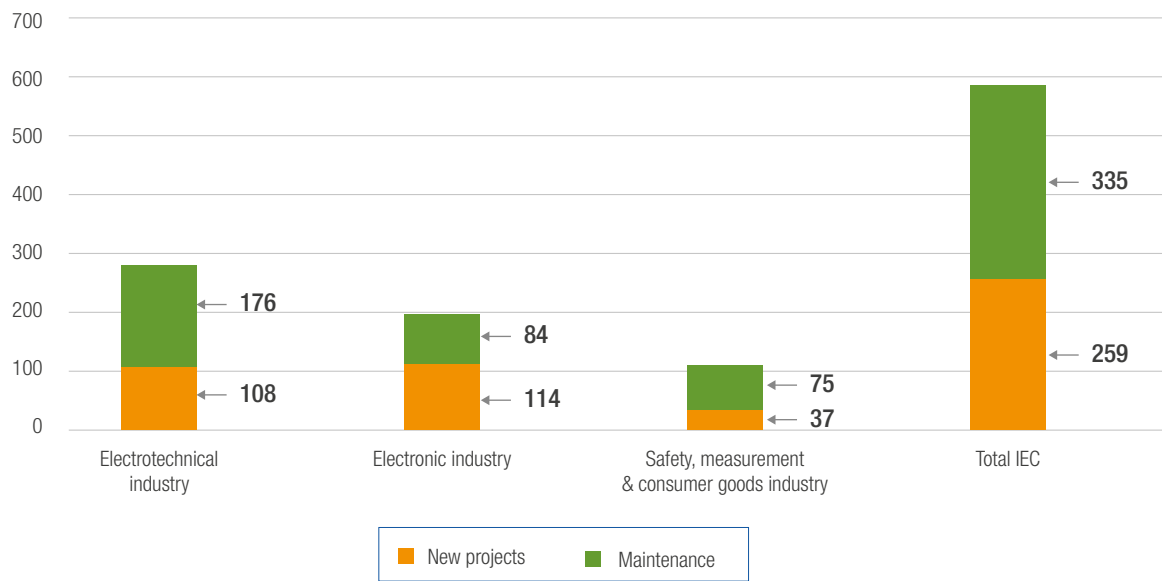


Figure 40 | Development of new projects compared to maintenance of existing publications by industry sector (Q3 2019 to Q2 2020)

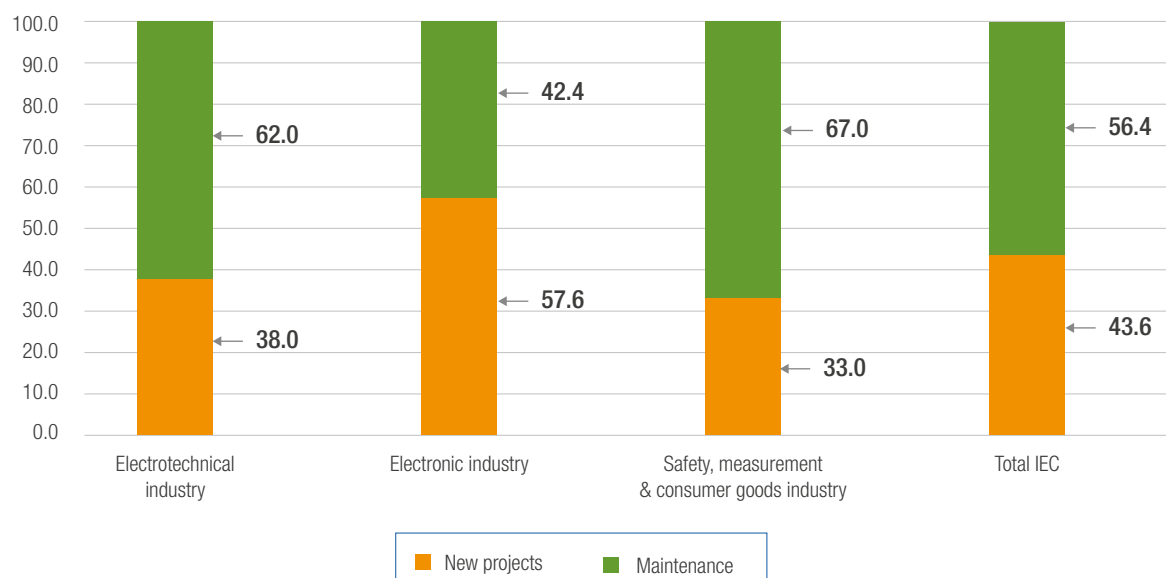


Figure 41 | Development of new projects compared to maintenance of existing publications in percentage (Q3 2019 to Q2 2020)

10.10 Technical experts

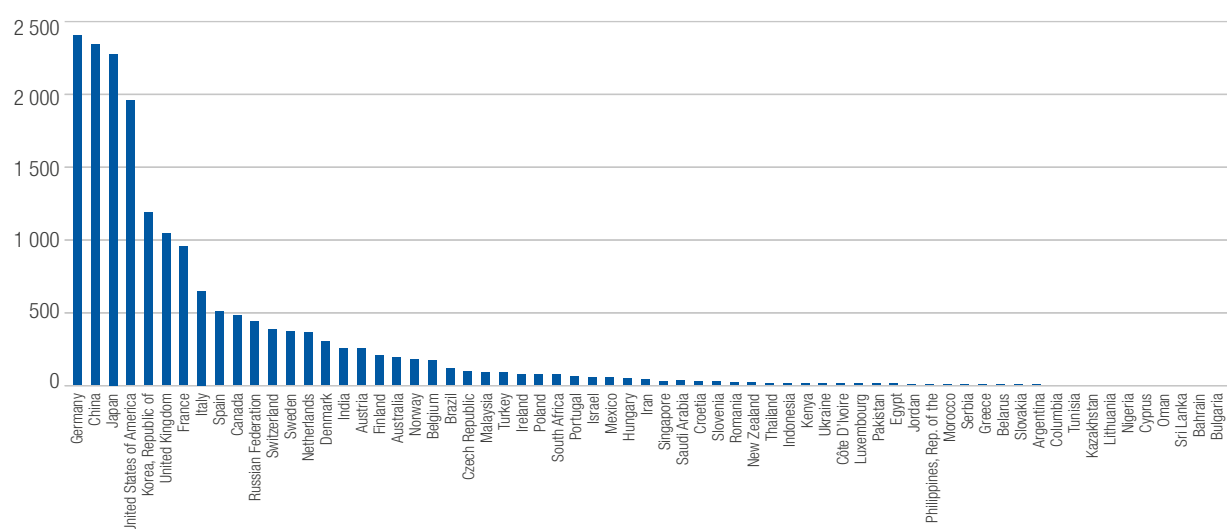


Figure 42 | Participation of experts in IEC work (2020-06-30)

10.11 TC Chairs and Secretaries

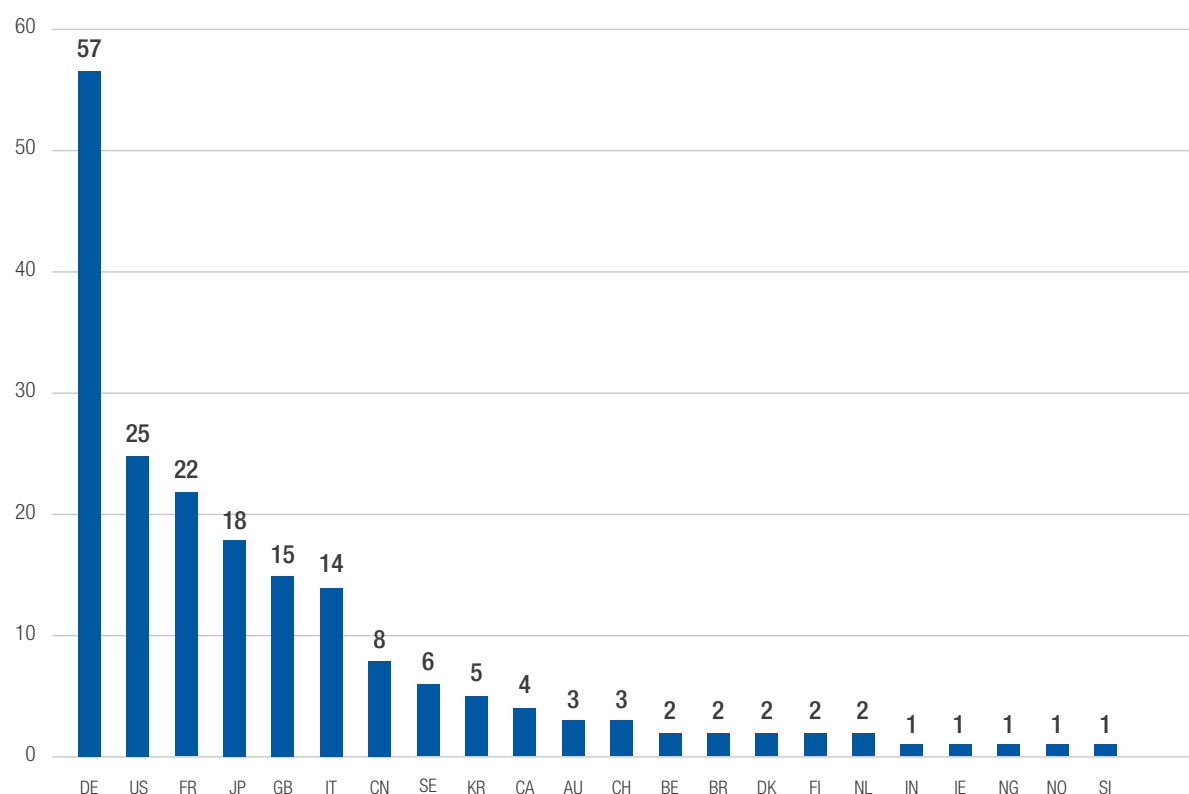


Figure 43 | Distribution of TC/SC Chairs

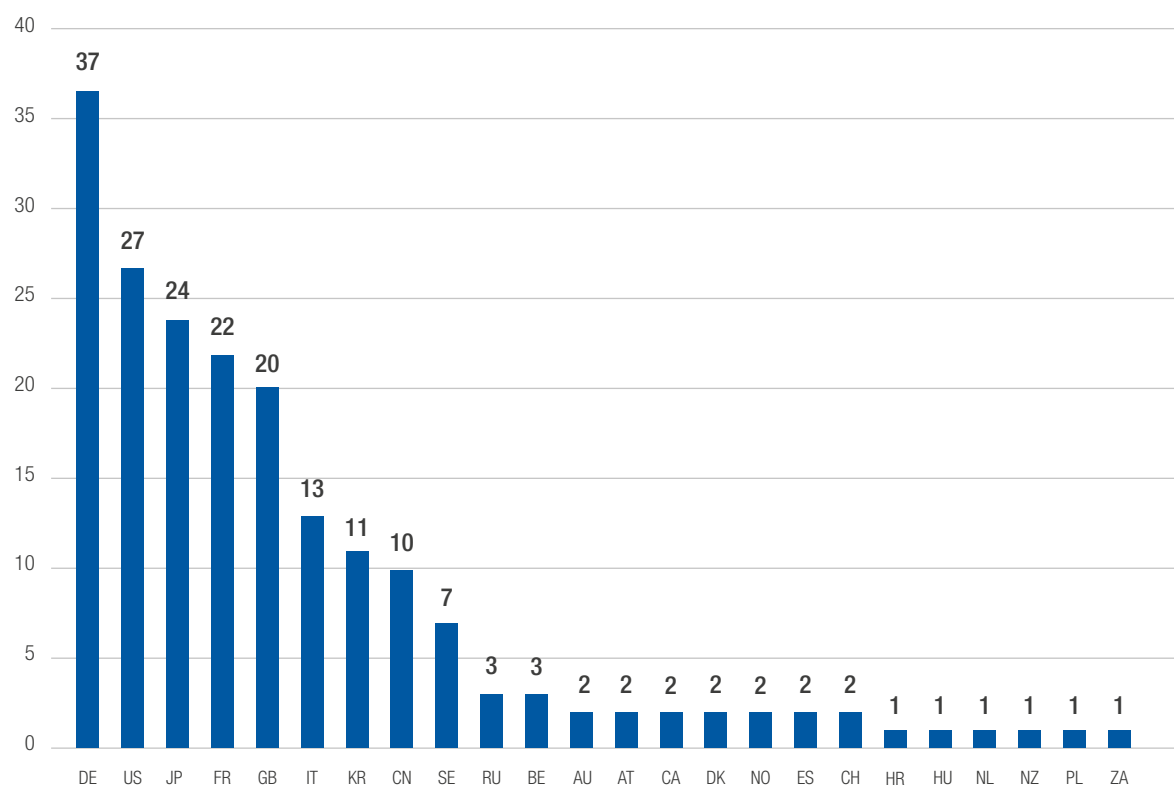


Figure 44 | Distribution of TC/SC Secretaries

10.12 TC/SC meetings

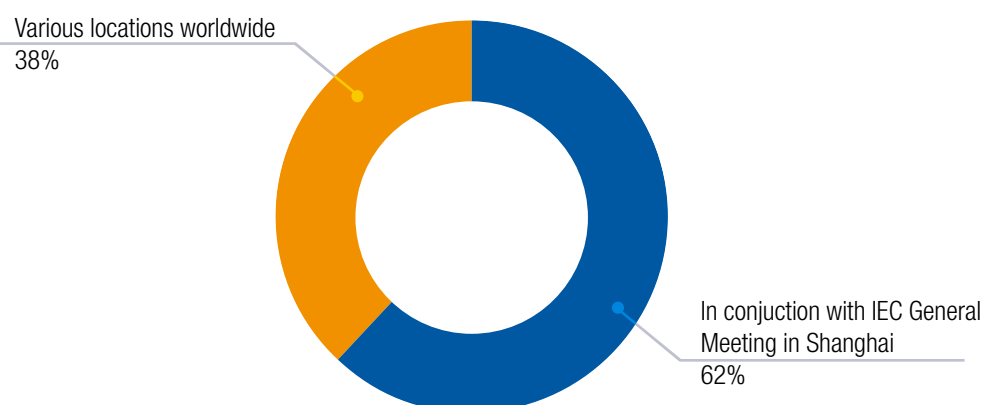


Figure 45 | TC/SC meetings

Annexes

Annex 1 – IEC members

List of IEC member countries (89) at 30 June 2020.

Albania (AM)	Ghana (AM)	Norway
Algeria	Greece	Oman
Argentina	Hungary	Pakistan
Australia	Iceland (AM)	Peru
Austria	India	Philippines, Rep. of the
Bahrain (AM)	Indonesia	Poland
Bangladesh (AM)	Iran	Portugal
Belarus	Iraq	Qatar
Belgium	Ireland	Romania
Bosnia-Herzegovina (AM)	Israel	Russian Federation
Brazil	Italy	Saudi Arabia
Bulgaria	Japan	Serbia
Canada	Jordan (AM)	Singapore
Chile	Kazakhstan (AM)	Slovakia
China	Kenya (AM)	Slovenia
Colombia	Korea, Rep. of	South Africa
Côte D'Ivoire (AM)	Kuwait	Spain
Croatia	Latvia (AM)	Sri Lanka (AM)
Cuba (AM)	Lithuania (AM)	Sweden
Cyprus (AM)	Luxembourg	Switzerland
Czech Republic	Malaysia	Thailand
Dem. People's Rep. of Korea (AM)	Malta (AM)	Tunisia (AM)
Denmark	Mexico	Turkey
Egypt	Moldova (AM)	Uganda (AM)
Estonia (AM)	Montenegro (AM)	Ukraine
Ethiopia (AM)	Morocco (AM)	United Arab Emirates
Finland	Netherlands	United Kingdom
France	New Zealand	United States of America
Georgia (AM)	Nigeria	Vietnam (AM)
Germany	North Macedonia (AM)	

(AM) = associate members

Annex 2 – IEC affiliates

List of affiliate countries (84) at 30 June 2020.

Afghanistan	<u>El Salvador</u>	Nepal
<u>Angola</u>	Eritrea	Nicaragua
<u>Antigua and Barbuda</u>	Eswatini, Kingdom of	Niger
Armenia	Fiji	Palestine
Azerbaijan	Gabon	Panama
<u>Bahamas</u>	<u>Gambia</u>	Papua New Guinea
<u>Barbados</u>	Grenada	Paraguay
Belize	<u>Guatemala</u>	Rwanda
Benin	Guinea	Saint Kitts and Nevis
Bhutan	<u>Guinea Bissau</u>	Saint Lucia
Bolivia	Guyana	Saint Vincent and the Grenadines
Botswana	Haiti	<u>São Tomé and Príncipe</u>
Brunei Darussalam	<u>Honduras</u>	Senegal
Burkina Faso	Jamaica	Seychelles
<u>Burundi</u>	Kyrgyzstan	<u>Sierra Leone</u>
<u>Cabo Verde</u>	Lao PDR	South Sudan, the Rep. of
Cambodia	Lebanon	Sudan
Cameroon	Lesotho	Suriname
Central African Republic	<u>Liberia</u>	<u>Syrian Arab Republic</u>
Chad	<u>Madagascar</u>	Tanzania
Comoros	Malawi	Togo
Congo	Mali	<u>Trinidad and Tobago</u>
Costa Rica	<u>Mauritania</u>	Turkmenistan
Dem. Rep. of the Congo	<u>Mauritius</u>	Uruguay
Djibouti, Rep. of	Mongolia	Uzbekistan
<u>Dominica</u>	<u>Mozambique</u>	Yemen
<u>Dominican Republic</u>	Myanmar	Zambia
Ecuador	Namibia	Zimbabwe

in blue: countries with Affiliate Plus status

underlined: affiliate countries with NECs

Annex 3 – IEC-AFRC

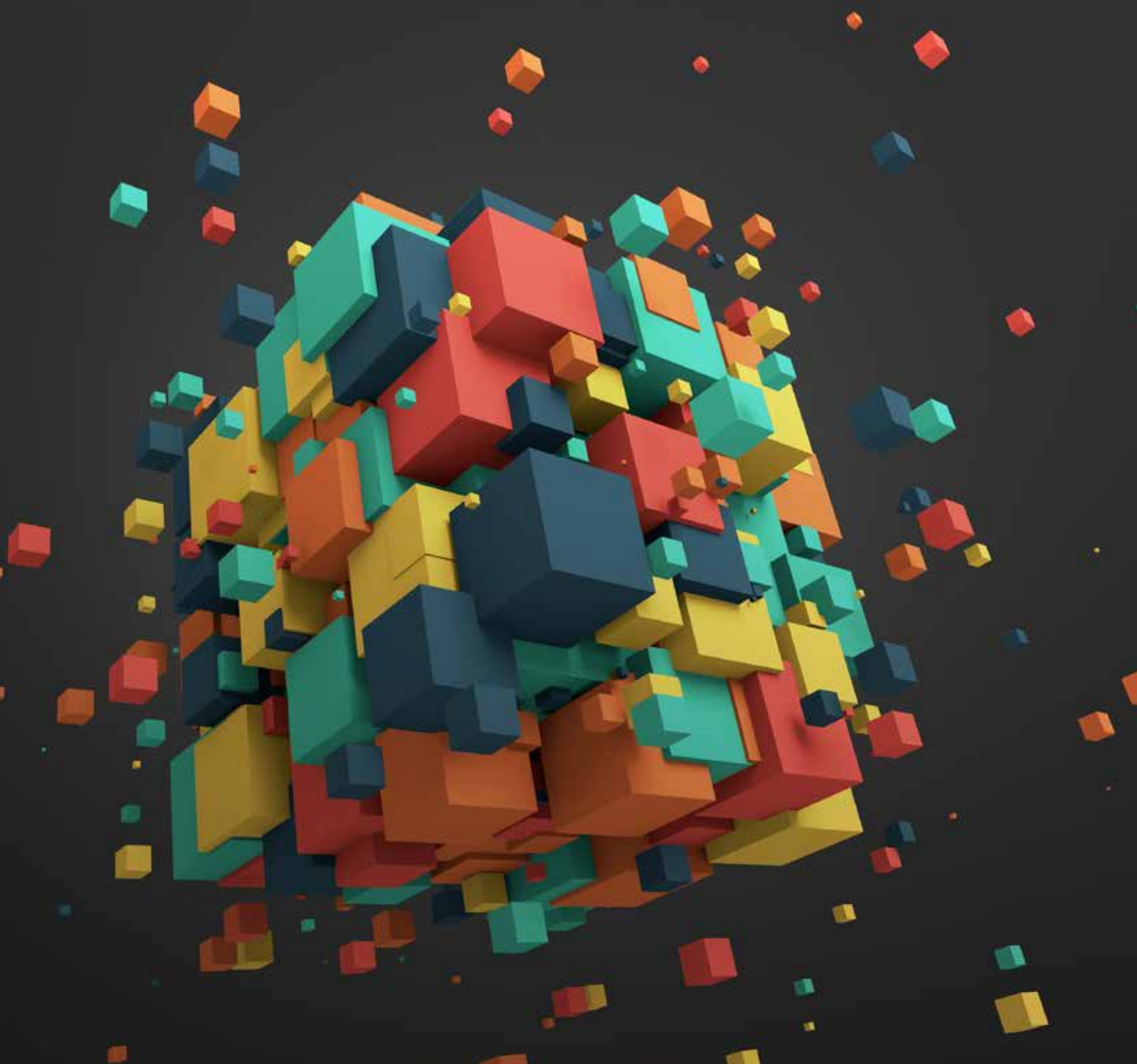
Date	Country	Mission	Estimated no. of participants	Presentations
Jul. 2019	Egypt	Seventh meeting of the African Electrotechnical Standardization Commission (AFSEC) conformity assessment committee, management committee meeting and general assembly	40	No
Sep. 2019	South Africa	ISO committee on developing countries (DEVCO) workshop	200	Yes
Sep. 2019	South Africa	General Assembly for the Réseau Normalisation et Francophonie (RNF)	50	Yes
Oct. 2019	Côte d'Ivoire	World Trade Organization (WTO) Technical Barriers to Trade regional workshop for French-speaking African countries	30	Yes
Oct. 2019	Kenya	Keynote address at World Standards Day celebration hosted by KEBS	700+	Yes
Nov. 2019	South Africa	14 th Southern Africa Energy Efficiency Confederation (SAEEEC) conference	200	No
Nov. 2019	Morocco	Arab Industrial Development & Mining Organization (AIDMO) 53rd meeting of the High Consultative Committee for Standardization	50	Yes
Nov. 2019	Kingdom of Eswatini	Contact visit and workshop with NEC members	20	Yes
Dec. 2019	Senegal	Fourth annual Regional Energy Summit (RES): West Africa in Senegal	200	No
Dec. 2019	Senegal	Meeting with NEC officers	3	No
Jan. 2020	Kenya	Fourth annual PowerTech conference	150	No
Feb. 2020	Egypt	Training for AFSEC conformity assessment committee members	11	Yes
Feb. 2020	Egypt	AFSEC workshop on its communication and marketing plan	20	No
Feb. 2020	Djibouti	Contact visit and workshop with key stakeholders	50	Yes
Feb. 2020	Ghana	Two-days online training for new IEC Associate Member from Ghana	14	Yes
March 2020	Uganda	Two-days online training for new IEC Associate Member from Uganda	6	Yes
Apr. 2020	Côte d'Ivoire	Online meeting about YP Programme	9	No
Apr. 2020	Ghana	Online meeting about YP Programme	7	No
Apr. 2020	Uganda	Online meeting about YP Programme	8	No
May 2020	IEC members in Africa	Online course on IEC tools and service	80	Yes
May 2020	Tanzania	Online course on capacity building, IEC Conformity Assessment Systems and ACAS	16	Yes

Annex 4 – IEC-APRC

Date	Country	Mission	Estimated no. of participants	Presentations
Jul. 2019	Malaysia	ASEAN Consultative Committee on Standards and Quality (ACCSQ) meeting	60	Yes
Jul. 2019	Singapore	Smart Energy Talk	20	Yes
Jul. 2019	Japan	Northeast Asia Standards Cooperation forum	120	Yes
Jul. 2019	Korea	International Standards Olympiad	150	No
Jul. 2019	Malaysia	APEC workshop on ISO/IEC 17024	70	Yes
Jul. 2019	Malaysia	IEC training	165	Yes
Jul. 2019	Singapore	IEC training	50	Yes
Aug. 2019	Bangladesh	Indo-Pacific Digital Trade Standardization Initiative	30	Yes
Aug. 2019	Chile	APEC Subcommittee on Standards and Conformance meetings and workshops	240	Yes
Sep. 2019	Cambodia	ASEAN-Australia Digital Trade Standards Initiative workshop 2	40	Yes
Sep. 2019	Fiji	Pacific Regional Quality Infrastructure workshop	80	Yes
Nov. 2019	Indonesia	ASEAN-Australia Digital Trade Standards Initiative workshop 3	40	Yes
Nov. 2019	Bangladesh	SARSO Governing Board Meeting	30	Yes
Nov. 2019	Singapore	Young Professionals workshop on standardisation	60	Yes
Nov. 2019	Brunei Darussalam	ACCSQ WG1 on standards meeting	40	Yes
Nov. 2019	Myanmar	ACCSQ meeting	60	Yes
Nov. 2019	India	BIS-CEN-CENELEC joint workshop <i>Emerging Challenges in new Era of Standardization: Exchange of Best Practices</i>	60	Yes
Dec. 2019	Singapore	Singapore-United States Smart Cities Third Country Training Programme (TCTP) for ASEAN and Timor-Leste	30	Yes
Dec. 2019	Malaysia	ASEAN Electrotechnical Symposium and Exhibition 2019	130	Yes
Dec. 2019	China	China Southern Power Grid International Technology Forum	200	Yes
Dec. 2019	Malaysia	JISC/IEC/APCF regional seminar <i>Standards to Support Applications of New Digital Technology</i>	30	Yes
Dec. 2019	Korea	KATS / KSA – ESG - DKE – IEC coordination workshop for trainers & YP programme organizers	30	Yes
Feb. 2020	Malaysia	APEC Subcommittee on Standards and Conformance meeting	60	Yes
Feb. 2020	Cambodia	UNIDO workshop <i>Standards and Quality Infrastructure for Innovation</i> and post-event meeting with senior government officials	40	Yes
May 2020	Asia and Oceania	Regional web catch-up session for NCs and affiliates in Asia and Oceania	40	Yes
May 2020	PASC	PASC web meeting with IEC, ISO and ITU-T	90	Yes
May 2020	Indo-Pacific	Indo Pacific Digital Trade Standardisation Initiative online workshop (led by Standards Australia with ISO and ITU)	30	Yes

Annex 5 – IEC-LARC

Date	Country	Mission	Estimated no. of participants	Presentations
Jul. 2019	Mexico	IEC NC training course	50	Yes
Jul. 2019	Brazil	FIEE International Fair and AbineeTec Seminar, presenting IEC smart cities and IEC energy efficiency	100	Yes
Jul. 2019	Brazil	Abinee Regulatory Convergence workshop	60	Yes
Aug. 2019	Chile	APEC Cybersecurity and Standards to Respond to the Impacts of Climate Change on Infrastructure workshops	50	No
Sep. 2019	Brazil	XII Latin American Smart Grid and Smart Cities Forum	200	No
Sep. 2019	Peru	COPANT focal group in IEC activities meeting	40	Yes
Sep. 2019	Peru	YP Programme launch event	150	Yes
Sep. 2019	Peru	<i>Electrical Industry Trends</i> conference	200	Yes
Sep. 2019	Peru	FINCA annual meeting	40	Yes
Sep. 2019	Peru	FINCA workshop <i>Why gender is important in standardization</i>	40	Yes
Oct. 2019	Colombia	WTO TBT regional workshop	50	Yes
Nov. 2019	Peru	Seminar <i>International Quality</i>	200	Yes
Dec. 2019	Mexico	Seminar <i>International Vision over the Standardization and Conformity Assessment</i>	500	Yes
March 2020	Webinar	Training on IEC structure, operation and how to participate	21	Yes
May 2020	COPANT	Webinar to introduce conformity assessment & IEC CA Systems (English version)	30	Yes
May 2020	COPANT	Webinar to introduce conformity assessment & CA Systems (Spanish version)	125	Yes



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