

#### INTERNATIONAL ELECTROTECHNICAL COMMISSION



#### **ABOUT THE IEC**

The International Electrotechnical
Commission (IEC) is the world's leading organization that prepares
and publishes International Standards for all electrical, electronic and
related technologies, collectively known as "electrotechnology". IEC's coverage
is vast – from standards for power stations to standards for electrical safety in the
home or workplace, to industrial automation standards and standards for multimedia,
just to mention a few.

The IEC activities embrace all electrotechnology on land, at sea and in the air, as well as associated disciplines such as terminology, electromagnetic compatibility, performance, safety and the environment, including work on increasing electrical energy efficiency and the development of standards for renewable energies.

The IEC also manages conformity assessment systems that certify whether equipment, systems or components conform to its International Standards.

As well as providing an excellent framework for improving safety and optimizing energy use, IEC's International Standards support fair trade among countries, providing a reference for the functioning of the World Trade Organization's Agreement on Technical Barriers to Trade.

At the end of 2008, the IEC counted 155 countries in its membership and developing nations programme.

### IEC OFFICERS (2008)

President JACQUES RÉGIS

Immediate Past President RENZO TANI

Treasurer OLIVIER GOURLAY

Vice-President FRANK KITZANTIDES

Vice-President DONALD GRAY

Vice-President ENNO LIESS

General Secretary & CEO AHARON AMIT

#### STATEMENT FROM THE PRESIDENT





While the IEC finished 2008 in a very strong financial and operational position, the global financial crisis was on all members' minds at the General Meeting in São Paulo.

The IEC Management decided to take two important steps to combat the economic downturn; the first was a mechanism approved by Council which will give members the possibility of deferring part of their 2009 dues against a commitment to pay over the next five years; the second was the establishment of a specialized group to monitor market trends more closely and to report back to the IEC management and members with recommended actions.

We never look forward to working through difficult times, but I would like to assure the IEC National Committees, the Technical Committees and Subcommittees, and the Conformity Assessment community, of the Commission's readiness to take decisive action to respond to the market's needs. We are committed to producing the most market-relevant International Standards and to operate the most global conformity assessment systems that support international trade by opening up new

markets, working for improved electrical safety and minimizing the impact on the environment. We must continue to do all of the above while working for sustainable development that can bring the developing world the benefits of using the latest technology and practices, and the developed world the solid framework for innovation.

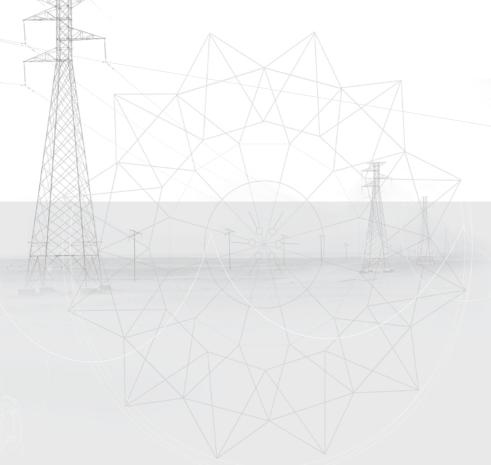
2008 saw a number of important initiatives beginning to bear fruit. The first was the work of the Standardization Management Board's Strategy Group 1 on electrical energy efficiency which has resulted in 11 recommendations where the IEC work can contribute significantly to energy savings, increased efficiency or new energy sources. The second was the first meeting of the newly established Market Strategy Board. I am convinced that the industry leaders in this group will be able to ensure that the IEC remains visionary and fully able to meet market needs today and in the years ahead.

2009 will be a critical year, as the upcoming General Meeting will help shape the Commission's strategic direction for years ahead. I know that I can count on the strength of the IEC Family to ensure the IEC's market-driven, forward-thinking approach to electrotechnical standardization and conformity assessment continues to deliver the desired results for industry, government and end-users alike.

JACQUES RÉGIS IEC PRESIDENT

### **CONTENTS**

Statement from the President	3
Executive Summary	5
Month-by-month	7
Key facts and figures in 2008	26
– IEC Family	26
<ul> <li>Conformity Assessment Systems</li> </ul>	26
<ul> <li>Standards production</li> </ul>	26
<ul> <li>Financial performance</li> </ul>	30
Annexes	32
A/ The IEC in figures	32
B/ Member countries	33
C/ Affiliate countries	34



#### **EXECUTIVE SUMMARY**

- With **559 publications** produced in 2008, production time for IEC Standards reduced to average of **30 months**.
- Membership rises to record level of 72 countries.
- IEC members offered dues deferral mechanism as global financial crisis takes hold.
- Record sales of IEC International Standards illustrates growing market relevance of IEC.
- Electrical energy efficiency recommendations show where IEC can contribute significantly to global climate change challenge.
- Smart grid standards identified as urgent need.
- IEC takes over **PV/Gap global conformity mark and seal** from World Bank for the solar energy industry; IEC launches the **Ex Mark** to serve the needs of the Ex industry in this highly specialized and heavily regulated area.
- IEC granted quasi-governmental status from Swiss authorities with **cost reductions** possible starting in 2009.
- With increased participation in Affiliate Country Programme, **IEC Family stands at** 155 countries.



### Electrotechnology. A natural passion.













#### **MONTH-BY-MONTH**

#### **January**

#### **IEC Family**

Following approval by the IEC membership, Libyan Arab Jamahiriya became the 69th member of the IEC. Saint Vincent and the Grenadines joined the Affiliate Country Programme.

#### **NOREK** countries

IEC President Jacques Régis and IEC General Secretary & CEO Ronnie Amit participated in the 36th NOREK meeting in Stockholm, Sweden. They used the annual gathering of the Nordic member countries of IEC and CENELEC to listen to, and understand the concerns and changes in the National Committees. The NOREK countries are Denmark, Finland, Iceland, Norway and Sweden.

#### Ex Symposium in Brunei

IECEx Executive Secretary Chris Agius and IEC-APRC Officer in Charge Dennis Chew were present at an IECEx Industry Symposium held in Brunei Darussalam. During the symposium, challenges on the determination of hazardous area classification and application of Ex equipment were presented and discussed. References were also made to the basis of risk management to ensure personal safety and technical integrity. One of the key elements emerging from the conference was the need for Brunei to adopt and participate in IEC TC 31: Equipment for explosive atmospheres, standards activities.



Participants from the NOREK countries gather with IEC President, Jacques Régis (left) and IEC General Secretary & CEO Ronnie Amit (4th from left).



The positive outcome of the Symposium was Brunei's commitment to seek to participate actively in IEC TC 31 work and to adopt IEC TC 31 International Standards nationally.

#### **MONTH-BY-MONTH**

#### **February**

#### **IEC Family**

El Salvador joined the Affiliate Country
Programme bringing to 78 the total number of
countries participating in the Programme.

#### SMB meeting

The Standardization Management Board (SMB) approved the intermediary report from the Joint IEC-CIGRE Coordination group (JICCG), which is charged to provide guidance to IEC and CIGRE in the development of UHV standardization and a roadmap of standardization of UHV AC technologies.

Further to SMB approval of an initial list of standards as horizontal standards, submitted in accordance with Guide 108, *Guidelines for ensuring the coherency of IEC publications - Application of horizontal standards*, the SMB noted that this list is not exhaustive and that TCs/SCs can continue to submit standards for SMB consideration.

#### **Launch of Ex Mark**

IEC launched a new mark of conformity – the Ex Mark – to serve the needs of the Ex industry in this highly specialized and heavily regulated area. The new Ex safety mark is offered under the auspices of the IEC System for certification to standards relating to equipment for use in explosive atmospheres, or IECEx. The Ex Mark is granted by approved IECEx certifiers (ExCBs) located in participating IECEx countries for

equipment that is covered by an IECEx Certificate of Conformity, meaning the equipment has been tested and manufactured under systems that are under ongoing surveillance by ExCBs.





The Ex Mark features the familiar IEC logo as well as a distinctive Ex logo type.

#### An electrotechnical commission for Africa

The African Electrotechnical Standardization Commission, or AFSEC, was inaugurated in Accra, Ghana. The mission of this new electrotechnical standardization body, a subsidiary of the African Union's Energy Commission, is to focus the continent's attention on the harmonization of electrotechnical standards through representation by national electrotechnical committees in each country. The IEC has supported the creation of AFSEC from the beginning, attending all preparatory meetings. In November, AFSEC President Claude Koutoua, from Côte d'Ivoire, attended the IEC General Meeting in

➤ São Paulo, Brazil, together with one of the three AFSEC Vice-Presidents, Evah Oduor, from Kenya, who was nominated IEC Affiliate Coordinator for Africa.

#### IEC continues to support Academia

The IEC, together with ISO and ITU, participated in the International Cooperation for Education about Standardization (ICES) conference in Gaithersburg, Maryland, USA. The purpose of the workshop was to promote and support awareness of education about standardization worldwide, and focused on the role and importance of standardization in supporting innovation and in facilitating



Delegates and officials attending the inauguration of the new AFSEC body take a break from their busy schedule.

commerce and trade as well as the commercialization of technologies. The 2010 ICES conference is expected to be hosted by IEC, ISO and ITU in Geneva, Switzerland.

#### March

#### **IEC Family**

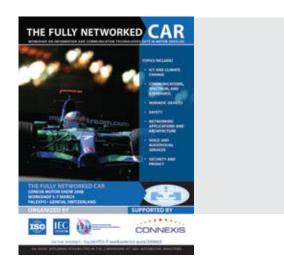
The Gambia joined the Affiliate Country Programme as the 79th Affiliate.

### JCDCMAS, a partner in support to developing nations

IEC continued its participation in JCDCMAS, the Joint Committee on Co-ordination of Assistance to Developing Countries in Metrology, Accreditation and Standardization, which comprises the major standardization, conformity assessment and metrology organizations: BIPM, IAF, IEC, ILAC, ISO, ITC, ITU, OIML and UNIDO. Committee members meet once a year to share information on their respective activities related to developing countries and coordinate mutually beneficial events.

#### The Fully Networked Car

Under the auspices of the World Standards
Cooperation, IEC, ISO and ITU participated
in the third "Fully Networked Car" workshop
held during the Geneva International



#### **MONTH-BY-MONTH**

Motorshow. At this event, highlighting the role of International Standards in the automotive sector, Shuji Hirakawa, Secretary of IEC TC 100: Audio, video and multimedia systems and equipment, made a presentation on Audio, Video and Multimedia Standards for fully networked cars.

#### **IECEE CB Bulletin Database**

IECEE launched the IECEE Online CB
Bulletin Database. The database offers a
comprehensive source of information on
adherence to IEC Standards by IECEE
National Certification Bodies (NCBs),
including national and group differences,
national deviations, special national conditions
and regulatory requirements. It also provides
the complete list of IECEE Members, their
contact details and regulatory requirements,
and their scope.

#### The World of the IEC video

A new, animated video, aimed at those who are new to the IEC, was made available on the IEC website. It takes the viewer on a short journey through the "World" of IEC Standards and Conformity Assessment. The two-minute video demonstrates how IEC Standards and Conformity Assessment systems are required in a large variety of environments, such as electricity generation, transmission and distribution, trains, planes and automobiles, manufacturing of electronics, not forgetting in the home, on the street, in hospitals and schools. The new IEC video is intended to become an essential gateway to the world of IEC for those new to the Commission.

#### **April**

#### **IEC Family**

The Central African Republic joined the Affiliate Country Programme, bringing the total number of Affiliate countries to 80.

#### **PASC** annual meeting

IEC Immediate Past President Renzo Tani attended the annual PASC (Pacific Area Standards Congress) meeting in Shanghai, China. Tani reported about the latest developments in standards development and conformity assessment, and focused on the IEC's efforts to promote the adoption and



Renzo Tani, IEC Immediate Past President addressing the Pacific Area Standards Congress in Shanghai.

▶ use of standards as well as to facilitate new membership. Tani also gave an account of the various projects that the IEC is carrying out concerning renewable energies and electrical energy efficiency.

#### **IEC at Central American meeting**

Amaury Santos from the IEC Regional Centre for Latin America, IEC-LARC, participated in the COMCCANOR (Comisión Centroamericana y del Caribe de Normalización) annual meeting in El Salvador. Santos updated participants on the IEC's structure and on its National Committees, with an emphasis on the areas of technical committee work in which their countries might participate. Santos paid specific attention to the IEC Conformity Assessment systems and the benefits they afford small and medium enterprises in terms of market access. At the same time he underlined the advantages to governments of being able to import goods, such as household items, that are recognized as having been manufactured according to consumer protection criteria.

#### WTO TBT Workshop in Vienna

Christian Gabriel from the Austrian National Committee represented the IEC at the World Trade Organization regional workshop in Vienna, Austria, attended by delegates from Central and Eastern Europe, Central Asia and Caucasus. Austrian NC Secretary Christian Gabriel introduced the participants to the IEC system of standardization and certification, stressing the system's numerous advantages, including improvement of safety, quality and legal reliability in the

electrotechnical field. He explained how membership of the IEC or participation in the IEC's Affiliate Country Programme makes countries eligible to become involved in the IEC's technical and conformity assessment work. The event was organized by the WTO Secretariat and focused on the principles of the WTO Technical Barriers to Trade (TBT) Agreement.



Christian Gabriel, Secretary of the Austrian NC (centre), with delegates from the Kyrgyz Republic, an IEC Affiliate.

#### IECQ online certificate system launched

IECQ launched the IECQ Online Certificate System in April. Responding to member and market demands, the new system – comprehensive, interactive and very user-friendly – enables IECQ Certification Bodies (CBs) and National Authorized Institutions (NAIs) to issue new IECQ Certificates of Conformity online. Moreover, the system is the unique depository of all IECQ master Certificates. IECQ also launched a new version of its website.

#### **MONTH-BY-MONTH**

#### May



IEC President Jacques Régis.



Jacques Régis and IEC Affiliate Country Programme Leader Carlos Rodríguez at the Forum of IEC National Committees of the Americas.

#### ► IEC present at COPANT General Assembly

IEC President Jacques Régis,
IEC General Secretary & CEO Ronnie Amit
and IEC Latin America Regional Manager
Amaury Santos represented the IEC at
the COPANT (Comisión Panamericana
de Normas Técnicas, or Pan-American
Standards Commission) General Assembly
that was held in Buenos Aires, Argentina.
All three took this opportunity to update
delegates on IEC global and regional
activities, putting special emphasis on energy
efficiency.

### Forum of IEC National Committees of the Americas

The Forum of IEC National Committees of the Americas (Argentina, Brazil, Canada, Mexico and the USA) took place in Buenos Aires, in conjunction with the COPANT General Assembly. IEC Associate Members and Affiliate Countries were invited to join and

participate in the forum. The focus was on the role of IEC-LARC (Latin America Regional Centre) and the Affiliate Country Programme, the adoption of IEC Standards in the Western hemisphere and on how to establish a National Committee.

### TC 114 for marine energy inaugural meeting

Technical Committee 114: Marine energy - Wave, tidal and other water current



TC 114 is chaired by Canadian Melanie Nadeau (centre).

ottawa, Canada. The TC deals with wave, tidal and water current energy conversion into electrical energy, with the exception of tidal barrage and dam installations, which are covered by TC 4: Hydraulic turbines. TC 114 already had one work item proposal in the pipeline at the time of the meeting.

#### **IEC at ASEAN Meeting**

The IEC Asia-Pacific Regional Centre's Dennis Chew represented the IEC at the meeting of the ASEAN Joint Sectoral Committee on Electrical and Electronic Equipment in Brunei Darussalam. The meeting, hosted by the Brunei Ministry of Development, brought together regulators of electrical and electronic equipment in ASEAN countries and focused on, among other activities, the use of IEC Standards when implementing the planned harmonized regulatory regime of the organization.

#### **IEC-APRC** hosts EMC Workshop

IEC-APRC hosted the ACEC Electromagnetic Compatibility (EMC) Workshop in conjunction with the 19th International Zurich symposium on electromagnetic compatibility. An IEC ACEC (Advisory Committee on Electromagnetic Compatibility) meeting was organized in Singapore in conjunction with the workshop.

#### IEC in Indonesia

Dennis Chew and IECEE Executive Secretary Pierre de Ruvo represented the IEC at a seminar organized by the Indonesian National Committee of the IEC and targeting industry, government bodies, regulators and potential Certification Body Testing Laboratories (CBTLs).

#### **APEC Meeting showcases IEC**

Dennis Chew and IECEE Executive Secretary Pierre de Ruvo went to Brunei Darussalam where they participated in the APEC Seminar on Understanding and Implementing the APEC EE MRA, hosted by the Brunei Ministry of Development. De Ruvo explained the benefits of the IECEE CB Scheme to some 60 regulators of electrical and electronic equipment from 16 APEC member countries.

#### Industrial automation forum in Japan

IEC Technical Committee 65: Industrial-process measurement, control and automation, participated in a one-day industrial automation forum hosted by JEMIMA (Japan Electric Measuring Instruments Manufacturers' Association) in Tokyo, Japan. Some of the sessions, led by speakers from IEC SC 65E: Devices and integration in enterprise systems, took place under the banner "IEC Automation Forum".



Roland Heidel, Chairman of TC 65, at Industrial Automation Forum.

#### **MONTH-BY-MONTH**

#### Amit speaks at Belgian NC assembly

IEC General Secretary and CEO Ronnie Amit attended a special session of the Belgian Electrotechnical Committee's annual assembly at which more than 100 senior executives from Belgium's electrotechnical industry were represented. Amit highlighted the considerable business opportunities offered through the IEC's Standardization and Conformity Assessment activities. Amit identified the potential benefits of involvement in the IEC and its NCs as efficiency gains, technology transfer gains and market access gains, and stressed the increasing importance of standards covering the electrotechnical industries, as confirmed by the World Trade Organization's studies on the matter.

#### TC 89 Seminar on fire hazard assessment

Some 80 people attended a seminar in Frankfurt on fire hazard assessment. The seminar was hosted by the German National Committee in conjunction with IEC TC 89: Fire hazard testing. It was the second seminar of its kind, the first being held in Stockholm in 2006 as a result of discussions that had taken place at the IEC 2005 General Meeting in Cape Town about testing and how fire risks are managed in IEC Product Committees (PCs). The seminar enabled TC 89 to provide guidance on safety publications and to build closer relations with PCs.

#### **June**

#### **IEC Family**

IEC welcomed Algeria and Qatar as its 70th and 71st members. Chad and Congo joined the IEC Affiliate Country Programme, bringing to 82 the total number of countries in the Programme.

### SMB meeting approves Project Committees

The SMB approved in principle the concept of introducing "Project Committees", based on procedures from the ISO Technical Management Board, the ISO equivalent of the SMB. Project Committees would be set up for isolated projects with a given target date, and which are not in the regular standardization work programme of existing TCs/SCs.

They would operate as a combined TC/SC and Project Team/Working Group, and be disbanded once the project was completed.

### International Energy Agency joins IEC Group on E<sup>3</sup>

The International Energy Agency (IEA) agreed to join SG 1 (Strategy Group 1), the SMB group of experts formulating the IEC strategy on standardization aspects of electrical energy efficiency (E³) and renewable energy sources. The SMB had requested the IEA's input to the Group given its level of expertise on the subject of energy efficiency for its member countries. The IEA acts as energy policy adviser to 27 member countries in their effort to ensure reliable, affordable and clean energy.

#### ► IEC at ISO regional conformity assessment workshop for Eastern Europe

The IEC, its Conformity Assessment activities and three Systems were presented at a seminar organized by ISO in Kiev, Ukraine, where the attendance was from many countries in Eastern Europe and the former Soviet Union. The workshop was designed to provide information on the benefits to developing countries of conformity assessment, as well as on the latest International Standards and Guides, recently updated by the IEC and ISO, which set out the internationally agreed practices for conformity assessment activities.

#### **President speaks at CENELEC Meeting**

IEC President Jacques Régis addressed the CENELEC (European Committee for Electrotechnical Standardization) General Assembly in Bucharest, Romania. Alluding to the enormous challenges facing the global economy, he stressed how important it was for organizations like the IEC and CENELEC to rise to the expectations of governments and other market players for support and help in establishing regulatory frameworks. Régis talked of IEC-CENELEC cooperation as a model for other regional organizations.

### New added-value IEC Standards+ launched

The IEC launched **IEC Standards+**, a new product comprising a package of documents that includes both the new edition of the IEC Standard and a Redline version where all the changes from the previous edition remain clearly visible, whether they be additions, replacements or deletions. The ability to



CISPR 22 ed 6.0 was one of the four IEC Standards+ published in 2008.

instantaneously identify the changes that have been made since a previous edition makes far more efficient use of the new content. In all, four IEC International Standards were published as **IEC Standards+** in 2008.

The IEC Standards+ concept aims to offer a new approach to various aspects of electrotechnical standardization concentrating on providing value-added services and is therefore not limited to the publication of Redline version of IEC International Standards. The IEC is working on IEC Standards+ training courses, geared towards industry and covering some of the key areas concerned with IEC Standardization. The first training course, "Helping to Achieve Functional Safety through IEC 61508", is scheduled to take place in 2009. International Standard IEC 61508, Functional safety of electrical/electronic/ programmable electronic safety-related systems, is relevant across the spectrum of industry and key to many different business sectors.

#### **MONTH-BY-MONTH**

#### July

#### WTO workshop in Morocco

In Rabat, Morocco, IEC Affiliate Country
Programme Secretary Françoise Rauser
participated in a WTO Workshop on Technical
Barriers to Trade (TBT) for francophone
African countries where she introduced the
IEC activities and those of its worldwide
Systems of Conformity Assessment. During
a session about technical assistance, the
IEC also shared the floor with its international
partners UNIDO (the United Nations Industrial
Development Organization) and Codex
Alimentarius and gave a detailed presentation
about the Affiliate Country Programme.



Participants at the WTO Workshop on Technical Barriers to Trade for francophone African countries, held in Rabat, Morocco.

#### New languages added to Electropedia

Electropedia, the IEC's dedicated website for electrotechnical terminology, was expanded to include several additional languages.

The online database, which already included terms and definitions in English

and French, as well as equivalent terms in German and Spanish, now allows searches for terms in Arabic, Chinese, Italian, Japanese, Polish, Portuguese, Russian and Swedish.

### Australian government cites IEC PV Standards

The Australian Government issued a new programme for home owners that encourages the long-term use of PV technology to generate electricity from sunlight and to increase the use of renewable energies in Australia. Photovoltaic modules sold in Australia and installed on individual houses must now be tested and certified to IEC Standards by a laboratory accepted by IECEE.

### **Upgrade of IEC Expert Management System**

The IEC launched a major upgrade of its
Expert Management System, including
numerous new features and enhancements
to this IT application introduced in 2004.
The system allows National Committees
to manage the roles of their experts in
IEC Working Groups, Project Teams and
Maintenance Teams, as well as giving Officers
of Technical Committees and Subcommittees
access to complete information on the
membership of their committees.

#### **August**

### IEC, ISO and ITU awarded Emmy for MPEG-4

At a ceremony in Hollywood, the US Academy of Television Arts & Sciences awarded a prestigious Emmy Award for engineering excellence to the IEC, ITU (International Telecommunication Union) and ISO (International Organization for Standardization) for their work in producing the advanced video coding standard known as ITU-T H.264 or ISO/IEC 14496-10, Advanced Video Coding (AVC).



Malcolm Johnson, Director of the ITU's standardization bureau (left) with Scott Jameson, Chair of ISO/IEC JTC 1: Information Technology Standards, and Director of Standards Strategy at Hewlett-Packard (behind), received the award on behalf of the three organizations at a ceremony in Hollywood on 23 August 2008.

#### President speaks at CIGRE session

The IEC was represented at the annual session of CIGRE (International Council on Large Electric Systems), held in Paris, France. IEC President Jacques Régis praised the way in which the two organizations are working together, stating that close collaboration between the two organizations resulted in the creation of a new IEC Technical Committee, TC 115, which will address DC (direct current) voltages above 100 kV. Regarding AC (alternating current) high voltages, the Joint IEC-CIGRE Coordinating Group (JICCG) provided a roadmap report for standards development. The recommendations identified which IEC TC will undertake the work.

#### IEC at APEC Meeting in Peru

Amaury Santos and IECEE Executive
Secretary Pierre de Ruvo were present at
the seventh Standards and Conformance
Conference organized by APEC (Asia Pacific
Economic Cooperation) in Cuzco, Peru. Both
Santos and de Ruvo briefed the audience
about IEC activities and its Conformity
Assessment Systems.

#### Establishment of TC 115, HVDC

The SMB approved the establishment of TC 115: High Voltage Direct Current (HVDC) transmission for DC voltages above 100 kV. The secretariat of the new TC has been allocated to the Chinese National Committee.

#### MONTH-BY-MONTH

#### ▶ IEEE agreement expanded

The agreement between the IEC and the IEEE (Institute of Electrical and Electronics Engineers) that allows IEEE Standards to be converted into IEC International Standards has been expanded to include a procedure permitting joint, parallel development of a project in both organizations leading to a Joint IEC/IEEE International Standard. The addendum to the original IEC-IEEE Dual Logo Agreement, signed in October 2002, establishes procedures for IEC and IEEE

to consult about the need to establish new standards, to initiate a joint development project, to prepare and circulate draft standards and to vote on those draft standards. It also includes processes for the maintenance of approved standards to keep them up to date.



#### September

#### **IEC Family**

The IEC welcomed the Republic of the Philippines as its 72nd Member.

#### Promotion of IEC solar work

IECEE Executive Secretary Pierre de Ruvo participated in the 23rd European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC) in Valencia, Spain, one of the world's largest events in that field. Because the IECEE PV Scheme is a truly international certification programme, based on IEC International Standards, this event was the perfect opportunity to promote it to an international audience. In his presentation, IECEE PV Programme - The best tool to facilitate trade of photovoltaics in the global market, de Ruvo explained how industry and government can benefit from the globally recognized certification system to ensure quality and improve safety.

#### E-business workshop in Geneva

Recognizing that public-private partnerships have been instrumental in developing and exploiting standards for electronics businesses across administrations, industry and the public, and that they show even more promise for the future, the IEC, together with ISO, ITU-T, OASIS, UN/ECE-UN/CEFACT and UPU, organized an international workshop on Advancing public-private partnerships for e-business standards. The conference, held in Geneva, Switzerland on 18-19 September, aimed to foster a better understanding of the public-private partnerships through which stakeholders collaborate to develop e-business standards. A further objective is to identify steps that might be taken to significantly enhance the benefits of recent achievements and works in progress, as well as to address emerging new requirements.

### ► IEC/ISO/ITU World Standards Cooperation (WSC) training course in Geneva

The WSC organized a Standards
Management Course in Geneva with
participants coming from 21 countries
and representing many of the world's
standardization organizations in
electrotechnical matters, telecommunications
and quality.



Participants were given the opportunity to visit the United Nations "Palais des Nations" and get an inside feel for International Geneva.

#### October

#### IEC and IAF sign agreement

The IEC and the International Accreditation
Forum (IAF) signed a Memorandum of
Understanding formalizing the cooperation
between IAF and the Systems in assessments
and the common understanding of the rules,
and encouraging further development in these
directions.

#### Forum for NCs in America established

At a meeting in Atlanta, Georgia, USA, the Forum of IEC National Committees of the Americas or FINCA, established by consensus the Terms of Reference of the forum, giving it its official name and defining its objectives and the important aspects of its operations. The main objective is to exchange information focused on the development of International Standards and Conformity Assessment services in the region while promoting technology transfer, consumer safety and the protection of the environment. Because FINCA also considers it important to promote IEC activities in the region, the



IEC-LARC's Amaury Santos (2nd from left) with the FINCA representatives.

Commission was invited to participate in the Atlanta meeting in order to present the IEC Affiliate Country Programme and the IEC-LARC activities in the region.

#### First TCs submit new business plans

After the initial one-year trial period, TCs are expected to start transforming their existing Strategic Policy Statement (SPS) into the new Strategic Business Plan (SBP) format. In this manner each TC/SC will have a document which they can use both as a strategic tool for their own needs in aligning their work with that of the market and as a communications

#### **MONTH-BY-MONTH**

▶ message for industry, experts and the general public not directly involved in present Technical Committee work. TC 3 and TC 48, two of the TCs that participated in the trial project, submitted their respective SBPs for final review by the SMB.

A delegation from 25 countries visited the IEC Central Office in Geneva. IEC speakers took part in a WTO session on participation in the development of international standards. At the end of the course, Suriname took the step to join the IEC Affiliate Country Programme.

#### IEC participates in WTO course

In autumn IEC participated in the first WTO specialized course on the TBT Agreement.

#### **November**

#### **IEC Family**

Suriname joined the Affiliate Country Programme, thus becoming the 83rd country in the Programme.

### IEC Vice-President speaks to Malaysian Industry

The Malaysian National Committee set up an IEC roundtable discussion for Chief Executive Officers in the electrical and electronic



Don Gray and Datuk Annas, President of the Malaysian NC and, partially hidden, Hussalmizzar Hussain, Secretary of the Malaysian NC.

sector. The roundtable, led by Datuk Mohd. Annas Mohd. Nor, President of the Malaysian NC, took place in Kuala Lumpur. The event was attended by some 60 senior representatives from industry and government. Don Gray, IEC Vice-President and Chairman of the Conformity Assessment Board, gave the main presentation entitled The Partnership of IEC Standards and Conformity Assessment - Facilitating Global Trade and Consumer Safety. IEC-APRC Officer in Charge Dennis Chew spoke about the IEC Asia-Pacific Regional Centre in Singapore, and provided background on the wide scope of IEC activities and its unique combination of International Standards and Conformity Assessment services, geared towards facilitating global trade.

#### WTO TBT workshop in Barbados

The WTO held its third annual regional workshop on TBT, in Bridgetown, Barbados. The IEC was represented by Francy Ramírez Torres of ICONTEC

▶ (Instituto Colombiano de Normas Técnicas y Certificación), the Colombian NC (National Committee) of the IEC. The programme of the workshop was designed to assist participating countries from the region to consolidate knowledge on the TBT Agreement and to provide a forum for participants to share their experience in the field. As an international standard-setting organization, the IEC was invited to present its activities and to take an active part in the workshop. Francy Ramírez presented IEC Standardization activities, the IEC Conformity Assessment Systems as well as the benefits of participating in the IEC Affiliate Country Programme.

### International Standardization shows robustness in ISO/IEC 29500 process

The ISO/IEC international standardization system was tested to new limits by the process surrounding the publication of ISO/IEC 29500, *Information technology* – *Office Open XML formats*, a standard for word-processing documents, presentations and spreadsheets that is intended to be implemented by multiple applications on multiple platforms.

#### **New premises for IEC-APRC**

The IEC Regional Centre for Asia-Pacific (IEC-APRC) moved to larger premises to make way in 2009 for additional technical and editorial staff whose role will be to serve the Technical Committees and Subcommittees based in the region. The improved office environment and additional space is part of a global recruitment plan to hire new IEC employees locally. It has been adopted on the basis of excellent feedback received from IEC Members and TC/SC Officers, major

stakeholders from industry and regulatory and government bodies based in the region. They appreciate the "local" contact and the additional assistance they receive in "real time", which help them participate further in standardization and conformity assessment processes.

## Highlights of the IEC General Meeting

The IEC General Meeting was held in São Paulo, Brazil, on 17-21 November 2008. Hosted by the Brazilian National Committee of the IEC, COBEI, the event gathered 857 delegates from 61 countries to attend technical, conformity assessment and management meetings.

### General Secretary reviews IEC activities

In his annual performance presentation to the Council, IEC General Secretary & CEO Ronnie Amit apprised Council members of the Commission's results during the period from the fourth quarter of 2007 to the third quarter of 2008. On the technical front, Amit told members that the IEC had reduced the average time for standards development



IEC General Secretary & CEO Ronnie Amit emphasized efficient operations during his address to Council

to only 30 months from 36 months. Amit's presentation centered on the IEC Masterplan 2006, adopting its structure to highlight the IEC's achievements in all sectors of activity.

#### **MONTH-BY-MONTH**

#### SMB meeting

#### **Smart Grids**

Two presentations were made to the SMB to provide a global picture of Smart Grid and to address potential future IEC standardization involvement in this area. It should be recalled that Smart Grid is not a new technology but updating existing energy networks into a new form of grid by improving data and communications across it, which would save energy and reduce costs as well as cut waste and operate more efficiently. The SMB set up a Strategic Group on Smart Grid (SG 3) with the primary responsibility for the development of a framework that includes protocols and model standards to achieve interoperability of smart grid devices and systems. The US National Committee was entrusted with the task of convening a group of approximately 12 representatives from systems integrators, utilities, business, manufacturers and users.

#### **Ultra High Voltage Standardization**

The SMB acknowledged the work of the Joint IEC-CIGRE Coordinating Group (JICCG) in setting out a roadmap for Ultra High Voltage (UHV) standardization, and approved a continuation of the group's work to coordinate technologies in this area.

On requests from China, Germany and others the SMB set up a new strategic group on UHV (SG 2) to address the IEC standardization needs and coordinate activities of IEC TCs. The Swedish NC will convene the group of approximately 12 experts.

#### **Energy efficiency**

While the work of IEC SMB Strategic Group (SG) 1 on electrical energy efficiency is

ongoing, the SMB accepted the SG 1 recommendation to establish a joint project committee with the International Organization for Standardization (ISO) on common terminology and criteria in this area. It also suggested that this committee should include the International Telecommunication Union (ITU). The SMB agreed to a proposal for a common document for energy efficiency, Energy Efficiency and Renewable Energy Sources – Common International Terminology, to provide a generic framework for further detailed domain-specific requirements for the development of suitable IEC and ISO deliverables.

#### **Automotive Electrotechnology**

Discussions with some ISO TMB and IEC SMB members and a liaison meeting of IEC and ISO TCs brought highlighted the fact that the IEC needs to be involved and take a leading role in the area of automotive electronics. A workshop between ISO and IEC TCs to determine ISO/IEC coordination and increase IEC participation in the areas of this fast moving technology may be envisaged in future.

#### **Consumer Policy**

The SMB representative to ISO/COPOLCO (Committee on Consumer Policy) presented items of interest ongoing in COPOLCO. The SMB agreed to a joint guide IEC/ISO Guide 37, *Instructions for use of products of consumer interest,* to be sent to IEC National Committees for comment.

#### **SBP forms**

Following the initial trial period where some TCs were asked to replace their Strategic Policy Statements (SPS) by Strategic

▶ Business Plans (SBP), the SMB approved guidelines, together with samples of some excellent SBPs to be used as guiding documents. Training and general information sessions for TCs/SCs will be organized.

#### First MSB meeting in São Paulo

Members of the newly formed IEC Market Strategy Board (MSB) met for the first time at the end of the General Meeting in São Paulo. The MSB, which comprises high-level industry representatives, was created to carry out market and technology road mapping and to help set priorities for IEC Standardization and Conformity Assessment activities.

#### Members' dues deferral plan

As a result of the global economic slowdown, IEC Council approved an initiative to allow members to reschedule their dues payments for 2009, with 60 % of the respective fees due by June 2009 and the remaining 40 % deferred for five years against a promissory note.

#### **Affiliates**

In his report to the IEC management boards, Affiliate Leader Carlos Rodríguez, Director of INTECO, Instituto de Normas Técnicas de Costa Rica, gave an update of the Affiliates' participation and insisted on the need for developing countries to participate actively in IEC Standardization work through their national electrotechnical committees. Seventeen Affiliate countries have established such committees and some were represented at the IEC General Meeting in Brazil. Carlos Rodríguez committed to assist others

Carlos Rodríguez committed to assist others to establish their national structure and will

chair the first Affiliate Forum at IEC next General Meeting.

A total of 22 Affiliate delegates from 12 countries attended 13 technical meetings during the IEC General Meeting. They came from Botswana, Côte d'Ivoire, Dominican Republic, The Gambia, Ghana, Honduras, Namibia, Peru, Sudan, Tanzania, Uruguay and Zambia.



Members of the MSB in São Paulo.



IEC delegates attending the workshop on energy efficiency, held during the General Meeting.

#### **MONTH-BY-MONTH**

#### ► E³ Workshop

Some 65 participants from 27 developed and developing countries attended a special workshop on electrical energy efficiency (E<sup>3</sup>) held during the IEC General Meeting. Speakers from Member countries – Brazil, Germany, France – but also from Affiliate countries - Sudan and Ghana - shared experience and knowledge with the participants. They came to the conclusion that electrical energy efficiency was a global concern both for developed and developing countries and that the IEC, together with its international partners, had a major role to play. It is also essential for developing countries to get involved in the elaboration of new International Standards, both as IEC Members and participants in the Affiliate Country Programme.

#### Lord Kelvin Awards to US experts

During the IEC 72nd General Meeting, US experts Donald N. Heirman and Scott K. Jameson both received prestigious IEC Lord Kelvin Awards for their outstanding contributions to electrotechnical standardization. IEC President Jacques Régis presented the awards at a dinner for officers of IEC National Committees, Technical Committees and Subcommittees. Heirman is best known among the IEC's experts on electromagnetic compatibility (EMC), serving as Chairman of the Special International Committee on Radio Interference (CISPR) and being a member of the Advisory Committee on Electromagnetic Compatibility (ACEC). Jameson has been a key figure in ISO/IEC JTC 1, the Joint Technical Committee for Information Technology (IT) of the IEC and the International Organization for Standardization, serving as its Chairman since 2001.



IEC President Jacques Régis (centre) flanked by Lord Kelvin Award winners Scott Jameson (left) and Don Heirman (right).

#### **December**

#### ► IECEx introduces certification of persons

IECEx introduced the world's first international Scheme for the certification of persons associated with equipment, installations and servicing used by Ex industries, e.g. oil and gas, coal mining, chemical plants, and so forth. The IECEx Certified Persons Scheme will provide the global Ex industries with a single system for the assessment and qualification of persons meeting the competency prerequisites needed to properly implement the safety requirements based on the suite of IEC International Standards covering explosive atmospheres, e.g. the IEC 60079, Explosive atmospheres, and IEC 61241, Electrical apparatus for use in the presence of combustible dust, series of standards. First certificates are expected to be issued in the second half of 2009.

#### **CAB Meetings with ILAC and IAF**

The CAB continued its cooperation with ILAC and IAF. Meetings of the IEC CAB/ILAC and IEC CAB/IAF Technical Panels in December highlighted the need to put forward new concepts of collaboration, take the joint assessments or reassessments a step further, put together a common pool of assessors and organize joint training workshops.



The IECEx Certified Persons Scheme will provide industry with a one-stop solution.

#### **KEY FACTS AND FIGURES IN 2008**

#### **IEC Family**

The IEC Family grew to an all-time high of 155 countries – 72 Full and Associate Members and 83 Affiliates. Four countries became members, with one of them, Libya, rising to Associate Member from Affiliate status while seven others joined the Affiliate Country Programme for developing countries.



At the end of 2008, the IEC Family counted 155 countries – 72 Members and 83 Affiliates.

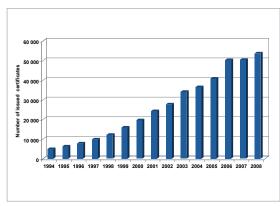
## **Conformity Assessment Systems**

IECEE now counts 51 member countries, with Pakistan joining in 2008. The IECEE CB Scheme issued 53 687 CB Test Certificates during the year.

IECEx grew to 32 member countries with Brazil, Croatia, Malaysia, Poland and Turkey joining in 2008.

IECQ now has 16 member countries with Australia, Singapore and Brazil joining in 2008.

#### **CB TEST CERTIFICATES ISSUED**



As in previous years, the growth in number of CB Test Certificates continued, with 53 687 certificates issued in 2008.

#### Standards production

Five hundred and fifty-nine publications were produced, of which 483 were International Standards, 32 were Technical Specifications (for which the consensus was insufficient for the status of an International Standard), 23 were Technical Reports (informative documents), 20 were Publicly Available

Specifications (industry specifications seeking full consensus) and one was a Guide. Of the total, 73 % were updates or maintenance of existing IEC Standards.

The year's production brought the total IEC catalogue to 6 027 publications. The average production time for the development of IEC publications was reduced by six months to 30 months with 69 % of all

▶ publications produced in less than three years, 26 % in three to five years, and 5 % in more than five years. Japan, China, Germany and the United States of America were the leading countries proposing new work items for standards development.

The average time to prepare Final Draft International Standards (FDIS) for circulation to members for final voting was less than two months, while the publication time from approval of the FDIS to publication was less than one month.

In terms of the number of IEC Standards produced, TC 61: Industrial-process measurement control and automation, was by far the most prolific, producing 74 Standards. It was followed by TC 48: Electromechanical components and mechanical structures for electronic equipment, with 36; TC 86: Fibre optics, with 32;

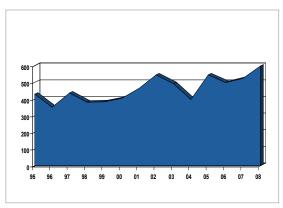
TC 100: Audio, video and multimedia systems and equipment, with 18; and

TC 46: Cables, wires, waveguides,

R.F. connectors, R.F. and microwave passive components and accessories, with 16.

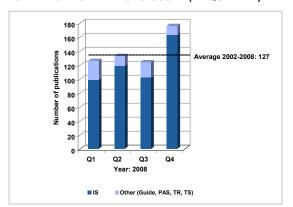
While by no means the only measure by which the IEC production should be judged, these figures nonetheless give an indication of the technology areas that are most active.

#### PRODUCTION OF PUBLICATIONS

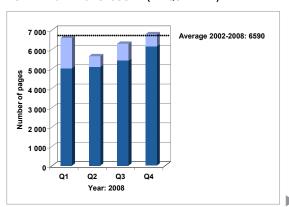


The number of publications issued went up once more in 2008 to 559.

#### NUMBER OF PUBLICATIONS ISSUED (BY QUARTER)

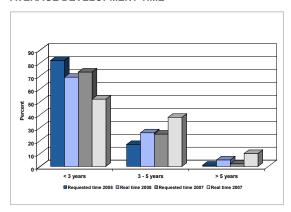


#### NUMBER OF PAGES ISSUED (BY QUARTER)



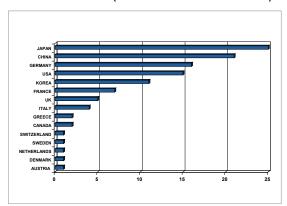
The 2008 production brought the total IEC Catalogue to 6 027 publications.

#### AVERAGE DEVELOPMENT TIME



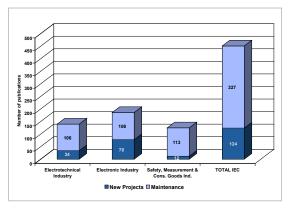
Average development time of IEC publications went down from 36 months in 2007 to 30 months in 2008.

#### NPs BY PROPOSERS (FROM NATIONAL COMMITTEES)



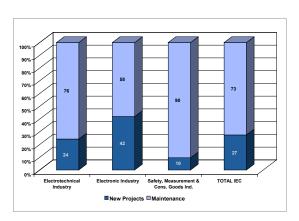
A total of 165 new projects were initiated in 2008. Japan, China, Germany and the US led the way in proposing new work.

### DEVELOPMENT OF NEW PROJECTS COMPARED TO MAINTAINING EXISTING PUBLICATIONS

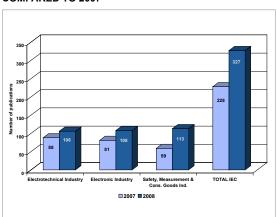


In 2008, the focus was on maintaining existing standards rather than on developing new ones.

#### NUMBER OF PUBLICATIONS BY SECTOR (%)

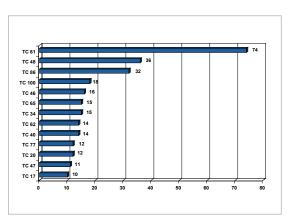


### MAINTAINING EXISTING PUBLICATIONS IN 2008 AS COMPARED TO 2007



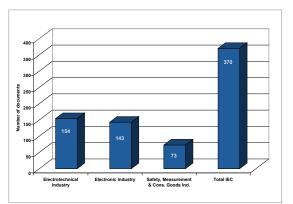
In 2008, maintenance work for the electrotechnical and electronics industries increased in all sectors compared to 2007.

#### TCs PRODUCING 10 OR MORE PUBLICATIONS

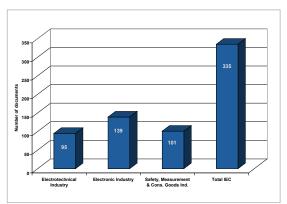


TC 61: Safety of household and similar electrical appliances, led the way in 2008 with 74 publications, and 12 other IEC TCs produced 10 or more publications in 2008.

#### **CIRCULATED CDVs**

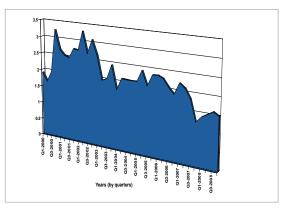


#### **CIRCULATED FDISs**

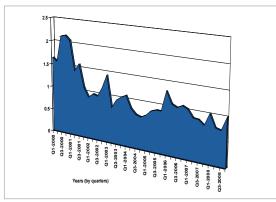


In 2008, the IEC circulated to its National Committees 370 Committee Draft for Vote documents and a total of 335 Final Draft International Standards.

### AVERAGE TIME IN MONTHS TO PREPARE FDIS FOR CIRCULATION BY CENTRAL OFFICE (2000-2008)



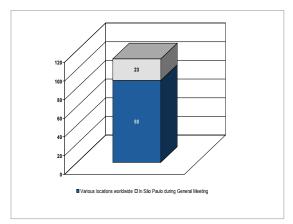
### AVERAGE PUBLICATION TIME\* IN MONTHS FOR IS (2000-2008)



\*Time from approval of the FDIS to Publication.

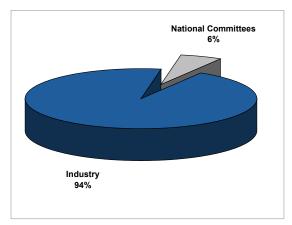
When it comes to administrative procedures, circulation time for Final Draft International Standards continues to be efficient with a time period of less than two months in 2008. Transformation time into publications was about one month or less on average.

#### MEETINGS



IEC Technical Committees and Subcommittees held a total of 111 meetings in 2008 around the world, compared to 97 in 2007.

#### TC/SC OFFICERS' AFFILIATION



Industry remains the predominant source for TC and SC Officers.

#### FINANCIAL PERFORMANCE

The IEC is financed by a combination of membership dues and revenues from the sales of its publications.

Total membership dues amounted to CHF 11,43 million while revenues from sales (both direct sales and royalties) came to CHF 9 million, which along with other revenues resulted in a total net income of CHF 23,21 million.

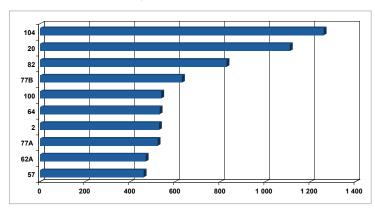
With total expenses for the year at CHF 20,91 million, of which personnel costs represented CHF 13,5 million, the IEC produced a net surplus for 2008 of CHF 2,3 million.

### KEY INDICATORS FOR THE IEC (INCLUDING CONFORMITY ASSESSMENT) CONSOLIDATED PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 2008

	2008	% of total income 2008	2007	% of total income 2007
	CHF		CHF	
Dues	11 435 457	49.26%	11 645 907	50.38%
- Group A* dues	4 570 000	19.69%	4 765 000	20.61%
- Associate Members	426 700	1.84%	432 000	1.87%
Sales	9 001 607	38.78%	8 350 654	36.13%
<ul> <li>Net paper and electronic sales</li> </ul>	3 258 432	14.04%	3 080 806	13.33%
- Royalties	5 743 175	24.74%	5 269 848	22.80%
Conformity Assessment Schemes operations	1 808 320	7.79%	2 000 832	8.66%
TOTAL NET	23 214 891	100%	23 114 338	100%
Personnel costs	13 506 217	64.58%	13 738 660	64.08%
TOTAL EXPENSES	20 915 242	90.09%	21 440 543	92.76%
SURPLUS FOR THE YEAR	2 299 649	9.91%	1 673 795	7.24%

 $<sup>^{\</sup>star}$  Group A comprises France, Germany, Japan, the United Kingdom and the United States.

#### TC/SC SALES: TOP 10 BY QUANTITY

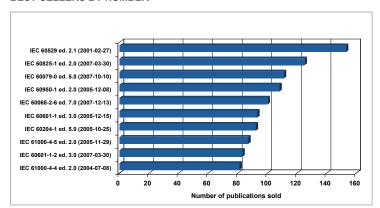


With a total of 1 259 publications sold, TC 104: Environmental conditions, classification and methods of test, again took the top spot for sales in 2008, followed by TC 20: Electric cables with 1 109 publications.

#### Sales

IEC Central Office sales of IEC Publications were once again outstanding, reaching a total of CHF 5.06 million in 2008, an increase of 2.4% compared to 2007. The sales were the highest since 2001. And the webstore sales broke another record with more than CHF 3.3 million, an 8.3% increase over 2007.

#### **BEST SELLERS BY NUMBER**



IEC 60529, followed by IEC 60825-1 were again in the lead in 2008, followed by IEC 60079-0.



#### THE IEC IN FIGURES (as of 2008-12-31)

#### The IEC Family Members 72 National Committees **Affiliate Country Programme** 83 Participants **Technical work Technical committees / Subcommittees** 174 Working Groups 505 **Project Teams** 273 Maintenance Teams 486 FDISs issued in 2008 335 In CENELEC parallel vote 276 370 CDVs issued in 2008 In CENELEC parallel enquiry 295 Total active projects 1 399 Average development time for IEC publications in 2008 30 months **Publications Total publications** 6 027 5 425 International Standards 195 **Technical Specifications** Technical Reports 340 IEC-PAS 63 559 (incl. 1 Guide) Publications issued in 2008 International Standards 483 32 **Technical Specifications** Technical Reports 23 IEC-PAS 20 **Conformity Assessment IECEE CB Scheme** Participating countries 51 66 National Certification Bodies Testing Laboratories 293 ► CB Scheme certificates issued in 2008 53 695 **IECQ** National Authorized Institutions (members) 16 ▶ Certification Bodies 27 Members (countries) Accepted Certification Bodies (ExCBs) 36 for Equipment, 7 for Service Facilities Ex Testing Laboratories (ExTLs)

### MEMBER COUNTRIES (as of 2008-12-31)

Algeria Latvia (AM)

Argentina Libyan Arab Jamahiriya

Australia Lithuania (AM)
Austria Luxembourg
Belarus Malaysia
Belgium Malta (AM)
Bosnia & Herzegovina (AM) Mexico
Brazil Netherlands

Brazil Netherlands
Bulgaria New Zealand
Canada Nigeria (AM)
China Norway
Colombia (AM) Pakistan

Croatia Philippines, Republic of the

Cuba (AM) Poland
Cyprus (AM) Portugal
Czech Republic Qatar

Dem. Rep. of Korea (AM)

Romania

Russian Federation

Egypt Saudi Arabia
Estonia (AM) Serbia
Finland Singapore
France Slovakia
Germany Slovenia
Greece South Africa
Hungary Spain

Iceland (AM)
India
Sweden
Indonesia
Switzerland
Iran
Thailand

Ireland The FY Republic of Macedonia (AM)

Israel Tunisia (AM)
Italy Turkey
Japan Ukraine

Kazakhstan (AM) United Kingdom

Kenya (AM) United States of America

Korea, Republic of Vietnam (AM)

AM = Associate Member

### AFFILIATE COUNTRIES (as of 2008-12-31)

Afghanistan Albania Angola

Antigua and Barbuda

Armenia
Bangladesh
Barbados
Belize
Benin
Bhutan
Bolivia
Botswana

Brunei Darussalam Burkina Faso Burundi Cambodia

Central African Republic

Chad Comoros Congo

Cameroon

Congo (Democratic Rep. of)

Costa Rica Côte d'Ivoire Dominica

Dominican Republic

Ecuador El Salvador Eritrea Ethiopia Fiji Gabon Gambia, The Georgia

Ghana Grenada Guatemala Guinea

Guinea Bissau Guyana Haiti Honduras Jamaica
Jordan
Kyrgyzstan
Lao PDR
Lebanon
Lesotho
Madagascar
Malawi
Mali

Mauritania Mauritius Moldova Mongolia Mozambique Myanmar Namibia Nepal Niger Panama

Papua New Guinea

Paraguay Peru Rwanda Saint Lucia

Saint Vincent and the Grenadines

Senegal
Seychelles
Sierra Leone
Sudan
Suriname
Swaziland
Tanzania
Togo

Trinidad and Tobago
Turkmenistan
Uganda
Uruguay
Venezuela
Yemen
Zambia
Zimbabwe





# INTERNATIONAL ELECTROTECHNICAL COMMISSION

3, rue de Varembé PO Box 131 CH-1211 Geneva 20 Switzerland

Tel: + 41 22 919 02 11 info@iec.ch www.iec.ch

#### IEC Asia-Pacific Regional Centre (IEC-APRC)

2 Bukit Merah Central #15-04/05 SPRING Singapore Building SG - Singapore 159835

Tel: +65 6377 5173 Fax: +65 6278 7573 dch@iec.ch

#### IEC Latin America Regional Centre (IEC-LARC)

Av. Paulista, 1439 - 11° Andar Cj 114 - Bela Vista BR - São Paulo - SP Brazil - CEP 01311-200.

Tel: +55 11 3289 1544 Fax: +55 11 3289 0882 as@iec.ch

#### IEC Regional Centre for North America (IEC-ReCNA)

446 Main Street 16th Floor US - Worcester, MA 01608 U.S.A.

Tel: +1 508 755 5663 Fax: +1 508 755 5669 tro@iec.ch

#### **IECEx - IECQ**

286 Sussex Street Sydney NSW 2000 Australia

Tel: +61 2 8206 6940 Fax: +61 2 8206 6272 chris.agius@iecex.com chris.agius@iecq.org