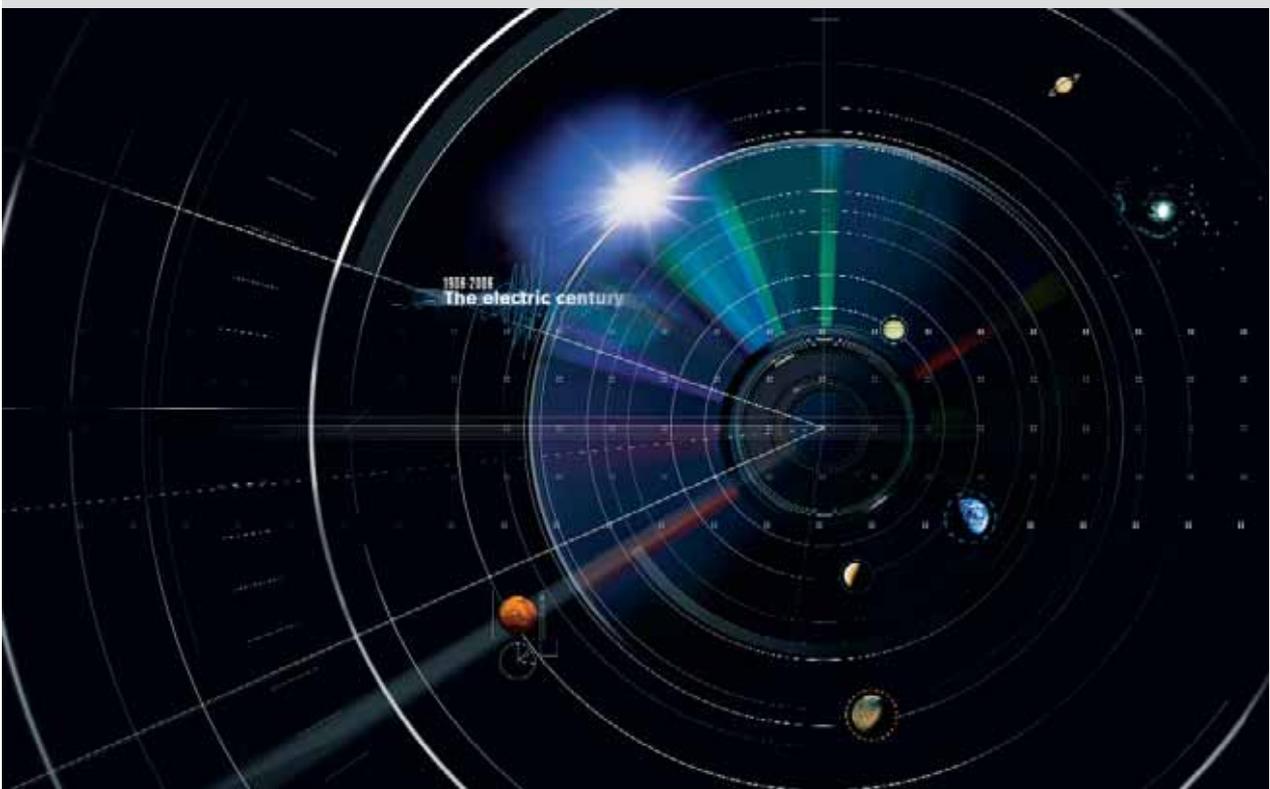




IEC PERFORMANCE 2006

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.

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 2006, the IEC counts 139 countries in its membership and developing nations programme.

IEC OFFICERS (2006)

President	RENZO TANI
Immediate Past President	SEI-ICHI TAKAYANAGI
Treasurer	OLIVIER GOURLAY
Vice-President	DONALD GRAY
Vice-President	FRANK KITZANTIDES
General Secretary & CEO	AHARON AMIT



Message from the President and the General Secretary



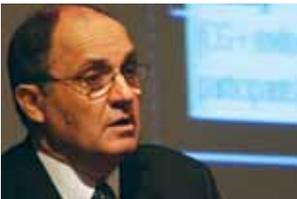
Message from the IEC President

2006 will go down in the IEC's history as the year when the Commission's members took a brief moment to look back at 100 years of achievement, and then got back down to work to ensure that the IEC serves the market in the best possible way.

It is an honour to pay tribute to the thousands of experts from industry, government, academia and end-users that make the IEC what it is today – a business-minded organization working in a fast-moving market place.

We have already made good progress on implementing our strategy for the future, *Masterplan 2006*, which will ensure the IEC continues to evolve with changing market expectations and conditions. We are now busy working on the future.

RENZO TANI
IEC PRESIDENT



Message from the General Secretary

The IEC's performance in 2006 was both sound and strong. While we increased the range of services available to the market and members, we made significant improvements in the organization's overall efficiency and effectiveness. As a result, the costs of participation in the IEC were reduced, lessening the burden on existing members and opening the doors to potential new members.

AHARON AMIT
IEC GENERAL SECRETARY & CEO

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CHAPTER 1

Executive Summary

Executive Summary

- IEC celebrates its 100 years of serving the market by engaging further with industry, government, academia and end-users.
 - UN Secretary-General, WTO Director-General and industry CEOs among key dignitaries involved in celebrations.
 - Regional events in Africa, the Americas, Asia-Pacific and Europe.
 - Member events focus on national audiences.
 - IEC Centenary Challenge brings world's leading universities and business schools on board.
 - Members renew their commitment to the IEC.

- IEC "Family" reaches all-time high of 139: Nigeria, Serbia and Sri Lanka bring membership to 67 countries; developing nations programme expands to 72 countries.

- Membership dues reduced, finances remain solid.

- Industry pushes for greater IEC role in electrical energy efficiency; ultra-high voltage (UHV) standards set as top priority.

- New technologies to be covered: Nanotechnology committee established; ocean energy technologies considered.

- New regional centre readies operations for Latin America; Asia-Pacific Regional Centre expands technical role.

- Revenues from sales of IEC International Standards up.

- International and regional cooperation increase.

- Industry participation in IEC Conformity Assessment activities reaches an all-time high.



CHAPTER 2

Celebrating the Electric Century

The IEC Centenary – An opportunity to look forward

The IEC celebrated 100 years – the "Electric Century" – of serving the market in 2006. The centenary represented a major opportunity for the Commission to reach out to communicate the strategic value of its work to all stakeholders in industry, government, test laboratories and academia, as well as consumers. All initiatives in 2006 were used as "springboards" to take the IEC into its next 100 years of activity.

All IEC operations and centenary projects were branded with a specially adapted "100 years" IEC logo, while a series of commissioned images featuring the slogan "Electrotechnology. A natural passion." provided strong visual identity.

As well as messages from the UN Secretary-General and a dialogue between IEC members and the WTO Director-General during the IEC's General Meeting in Berlin, the IEC received a number of video messages of support from industry leaders, certification organizations, and industry and trade associations.

A number of paper and electronic deliverables were developed for the centenary which were sent to target audiences directly or through IEC member National Committees. These included the interactive IEC *Techline* which encompasses a rich library of technical and historical information on the development of electrotechnology and which maps out the key developments in the IEC since its founding. All materials for the centenary were developed so that they could be used long after the centenary year was over.

Different regions, different approaches

A series of workshops and conferences was organized throughout 2006 specifically tailored to the needs of different regions, while members organized national celebrations with specific aims and objectives.

One of the IEC's newest members, Kenya, hosted the first regional event. *Electrification: Switching on Africa's Potential*, held on 21-23 February in Nairobi, brought together representatives from 19 African countries. Building on the growing interest in electrotechnical standardization and conformity assessment in Africa, representatives from industry – particularly African utilities through the Union of Producers, Transporters and Distributors of Electric Power in Africa (UPDEA) – and government, as well as high-level representation from the African Union, discussed the current and future needs of Africa.

In May, the IEC reached out to the host city for Central Office operations – the "international crossroads" of Geneva. Addressing the general public as well as local and cantonal authorities who have supported the IEC since it moved the Central Office from London to Geneva in 1948, the IEC opened a month-long exhibition from 16 May to 8 June hosted by the local Geneva utility, SIG (Services Industriels de Genève). A series of interactive information "pods" took visitors through the 100 years of electrotechnology, while static displays included some early household electrical devices. A total of some 2 000 members of the public visited the exhibition, while local school children were also introduced to the IEC and the world of electrical safety in a series of open days. In the presence ►



Participants in the IEC Centenary Event for Africa.

- ▶ of the IEC Council Board members, the exhibition was officially opened by Geneva State Councillor Robert Cramer, Swiss Federal Office of Energy Director Walter Steinmann, Geneva City Council Representative Jacques Moret, SIG President Daniel Mouchet and United Nations Office at Geneva Director General Sergei Ordzhonikidze.

On 26 June, the British Electrotechnical Committee hosted a centenary dinner at the Institution of Engineering and Technology (IET) on the banks of the river Thames – close to the original site of the Hotel Cecil where the IEC was founded exactly 100 years previously. The event brought together the leaders from the UK's electrotechnical industry.

IEC builds on foundations in Asia-Pacific



IEC President Renzo Tani.



Robert Cramer and Renzo Tani.



Walter Steinmann.



Daniel Mouchet.



Jacques Moret and Renzo Tani.



IEC Immediate Past President Sei-ichi Takayanagi.

The IEC Asia-Pacific Regional Centre held its centenary celebrations in Singapore on 21 and 22 November 2006. The event was attended by some 150 experts from 17 countries comprising interests from industry, government, standardization and conformity assessment bodies.

In his welcoming address Loh Khum Yean, Chief Executive of SPRING Singapore, underlined the importance of this meeting in saying to his audience: "The IEC Asia-Pacific Centenary Workshop and the related events are indeed excellent platforms for you to be alerted of upcoming and current standards and technical regulations for electrical and electronic equipment in the region and around the world."

Robert Chua, Chairman of the IEC Asia-Pacific Steering Group and President of the Singapore National Committee of the IEC, provided opening remarks to the event. This was followed ▶

▶ by a keynote speech from IEC Immediate Past President Sei-ichi Takayanagi, in which he outlined the strategy of the IEC, particularly in terms of its mission and vision, as set out in the *Masterplan 2006*. He concluded: "The best days of the IEC lie ahead. It is up to each and every one of us in this room to leave Singapore with a commitment to finding the right people who have a natural passion for electrotechnology and the IEC."



From left to right: Robert Chua, Derek Johns, Pierre de Ruvo, Arkom Kusalanon, Chris Agius.



Participants during the presentations.

Topics for the remainder of the two days focused on contemporary standardization and renewable energy challenges, as well as safety and conformity assessment, with presentations and discussions led by world experts on:

- meeting global efficiency and environmental regulations, with case studies and an overview of existing and emerging regulations on electrical and electronic equipment;
- latest developments and activities of TC 111, *Environmental standardization for electrical and electronic products and systems*;
- new trends in the area of renewable energies such as hydroelectric and solar energy and the IEC activities of TC 4, *Hydraulic turbines* and TC 82, *Solar photovoltaic energy systems*;
- latest developments in TC 61, *Safety of household and similar electrical appliances*, and ASEAN harmonized agreement on electrical and electronic equipment; and
- IEC conformity assessment schemes, including the IECEE CB Scheme as the best transportable conformity assessment program worldwide.

The workshop was also held as part of a joint Japanese Industrial Standards Committee/IEC/Asia-Pacific Steering Group (JISC/IEC/APSG) Human Resource Development training session. This annual initiative brought together representatives from many countries in the region, including IEC Affiliates, to Singapore to receive training on participation in IEC standardization activities.

As part of the week of IEC centenary celebrations and as evidence of the important role of the IEC Asia-Pacific Regional Centre, the IEC played host to the Joint Sectoral Committee on Electrical and Electronic Equipment meeting of the Association of Southeast Asian Nations (ASEAN) with the participation of IEC Immediate Past President Sei-ichi Takayanagi and the IECEE Executive Secretary Pierre de Ruvo. ▶



► Reaching out to academia

While the IEC Centenary Challenge was officially launched in 2005, the competition for business schools, universities and engineering colleges came to a successful conclusion in December 2006 with the announcement of the winners at a special ceremony at the Institution of Engineering and Technology (IET) in London, UK.

The IEC Centenary Challenge was a competition for papers on the economic, business and social impact of International Standards. It was open to anyone affiliated with an academic institute, including members of faculty, individual professors, heads of faculty, and teaching or research staff.

The Challenge was organized in association with *The Economist* magazine and in partnership with three leading professional engineering bodies: the IET; IEEE (Institute of Electrical and Electronics Engineers); and VDE, the German Association for Electrical, Electronic and Information Technologies.



Stuart Mucklejohn and Georges Zissis.

The Université III Paul Sabatier in Toulouse, France, won the USD 15 000 first prize for a paper addressing the ties between standards, human vision, lighting, security and economic development.

Written by Dr. Georges Zissis and Dr. Stuart Mucklejohn, *Standardizing Mesopic Vision Conditions and Incidence on Light Sources Science and Technology* studies how the absence of certain standards relating to human vision means that innovation in specific fields of urban lighting does not happen easily. The paper goes on to tie this lack of development to reduced security and quality of life in urban areas as well as to less energy efficiency and a slower rate of sustainable development.

Because of the high quality of the papers, judges decided on a joint second prize, with each receiving USD 5 000. The joint second-place winners were:

- The University of Colorado at Boulder, USA, for a paper by Ben Krechmer and Elaine Baskin. *The Entrepreneur and Standards* looks at the relationship between technological advances created by entrepreneurs seeking personal gain and standards that then use the intellectual property of entrepreneurial innovation for the public good.
- The University of Tokyo, Japan, for *Architecture-based Approaches to International Standardization and Evolution of Business Models*. Written by Junjiro Shintaku, Koichi Ogawa and Tetsuo Yoshimoto, it provides a general framework for analyzing the economic impact of international standardization.

Third prize of USD 2 000 went to Toyo University, Japan, for a paper entitled *Standardization and Patent Pools: Using Patent Licensing to Lead the Market*. ►



Michael Glos.



*"Lord Kelvin" and
Renzo Tani.*



Klaus Wucherer.



Konzerthaus Berlin.



Interior of Konzerthaus.

CHAPTER 3

General Meeting

The IEC Family meets in Berlin

The highlight of the year was the annual gathering of IEC members and technical experts for the General Meeting. The German National Committee had stepped in to organize the centenary celebrations only in late 2005. In that very short time, it nevertheless succeeded in putting together a superbly organized series of meetings and events for the IEC Family.

Held from 24 to 29 September, the 70th IEC General Meeting was hosted by one of the Commission's founding members, VDE. The event was an opportunity for the IEC community of National Committees and experts, as well as invited guests, to come together for an intense week of technical and management meetings at the same time as being able to enjoy a series of events to celebrate the IEC centenary.

The proceedings were opened by Dietmar Harting, President of the German National Committee (DKE), and featured presentations from IEC President Renzo Tani and Heinrich von Pierer, Chairman of German Chancellor Merkel's Council for Innovation and Growth.

Germany's Minister for Economics and Technology, Michael Glos, emphasized the importance of IEC International Standards to the German economy in a keynote speech at a memorable event in Konzerthaus Berlin. Delegates were taken on a roller-coaster ride through the century of technological development and IEC achievements, ending with how the future may look. Also speaking at the event was Klaus Wucherer, Executive Vice-President of Siemens and President of the IEC German National Committee, who discussed the importance of having an open

system for standards setting and the shift from product to system standards as technology becomes more integrated and interoperable. Speaking at the event, IEC President Renzo Tani, who had earlier "met" the IEC's first president Lord Kelvin (played by an actor), urged the IEC members to follow the example set by the German National Committee in participating to the fullest extent possible in the development of IEC International Standards.

IEC Council

The IEC Council meeting on Friday 29 September was split into two parts: a morning statutory session and an afternoon centennial celebration.

Statutory session

During the morning session, IEC members reasserted their commitment to the Commission through *The Centenary Declaration, Berlin, 2006* – a statement agreed by all IEC member National Committees which concludes with the members' "determination to support the leading role of the IEC in meeting future challenges and to intensify cooperation and mutual assistance among all partners in the IEC Family, while ensuring the widest representation of all electrotechnical interests in each National Committee to the benefit of our global markets."

Jacques Régis was elected to the IEC Presidency for 2008-2010. Régis, a graduate of the Université de Montréal, is a former President of Hydro-Québec TransÉnergie and sat as a member of the board of several subsidiaries of HQ International. He has also chaired the Transmission Council of the Canadian Electrical Association. He began a



*IEC President Elect
Jacques Régis.*

-
- ▶ one-year term as IEC President-Elect on 1 January 2007.

The IEC Council endorsed the election or re-election of the following people for three-year terms of office (2007-2009):

Council Board: Zhirong Ge (China); Else Shepherd (Australia); Greg Stone (Canada); Roberto Taranto (Italy); and Tore Tronvold (Norway).

Conformity Assessment Board: Dorival Heeren (Brazil); Mei Lu (China); Soo-Hyun Paik (Rep. of Korea); and Mike Lawson (United Kingdom).

Standardization Management Board: John Henry (Australia); Shuangqiu Liu (China); and Anders Elrud (Sweden) .

Reduced membership fees

Following the Council's confirmation, President Renzo Tani announced the IEC would lower dues for countries with smaller economies starting in 2007. In total, 47 members will pay lower dues, 10 will see increased dues and 10 will see no change. The reductions run between 1,4% and 34,9%, while the increases range from 0,35% to 4,8%.

In explaining the changes, Tani said it was easier for National Committees that operate within big economies to see their dues climb a little because an increase of less than half a percent does not put excessive strain on them. But in smaller economies, even small changes are significant. He said that he was pleased to see that the IEC membership had decided to work together in a spirit of solidarity to create a

membership dues structure that is seen as being fair for everyone.

The reductions in the dues were an early implementation of one action item from the IEC's latest strategic plan, known as *IEC Masterplan 2006*. This document, which was approved by Council prior to the Berlin meeting, says that the IEC needs to ensure that it includes every economy wishing to participate in setting international electrotechnical standards. Lower financial barriers for smaller economies are seen as one way to ensure this participation.

In discussing *IEC Masterplan 2006*, Tani emphasized three main topics: participation; meeting needs in emerging and fast moving technologies; and new services to the market.

He encouraged IEC National Committees to participate fully, saying: "You are the access channel for all the interested parties to participate in the drive towards consensus and the highest quality standards. The wider the channel, the more stable foundations you have as a National Committee and the more benefits can flow back through you to society."

Tani also said the IEC "will be developing proposals on a "third leg" for the IEC, separate from the existing standards development and conformity assessment structures. The aim will be to offer cost-effective services and facilities to consortia and other fora that will allow them directly to develop limited-consensus documents which they need quickly. At the same time, there should be the option to transfer these documents to our full-consensus process if and when appropriate." ▶

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- ▶ The IEC also intends, Tani said, to continue being innovative in using IT to deliver products and services to its community and its market.

Commission's performance remains healthy

Aharon Amit, in his eighth *Performance Report* to IEC Council, gave Members, Affiliates and invited guests an assessment of the Commission's operational performance. The report covered the last quarter of 2005 and the first three quarters of 2006, as well as comparisons over the previous 10 years. A large part of the presentation was devoted to the technical work of the IEC, while other aspects included financials and the IEC's future direction according to the latest strategic plan, *IEC Masterplan 2006*.

Amit reported that IEC finances showed a 12% decrease in membership dues over the past 10 years, a 19% reduction in expenses and a 308% increase in royalties from sales paid to members. He said that the IEC's financial stability was tied to efficient operations and optimum tools and services, overall helping the IEC to better serve the market.

He reported on the IEC's centenary projects which were all aimed at communicating the

strategic value of the IEC. He highlighted the numerous activities organized by IEC members in 2006 and updated members on regional events.

Centennial session

The afternoon session of Council was devoted to a celebration of the IEC's 100 years. Master of Ceremonies was Professor Michael Yaziji from the IMD University in Lausanne, Switzerland.

In his message to the IEC Council, UN Secretary-General Kofi Annan congratulated the IEC on its achievements: "The IEC's global work for electrical safety makes an important contribution to our efforts to build a better world for all people." Furthermore, he highlighted the key role of the IEC in bringing the different stakeholders together: "In an increasingly interdependent world, international cooperation is more vital than ever. It is heartening, therefore, that the IEC brings together not just governments but also industry and consumers; not just developed countries but also the developing world; and not just paid employees but also thousands of volunteers, including scholars and end-users." ▶



- ▶ Pascal Lamy, Director-General of the World Trade Organization, was guest of honour in the afternoon session. Lamy, in a live video conference, underscored the importance of the IEC's International Standards and praised the Commission's efforts at increasing the involvement of developing nations in the standards-setting processes.

The Council session included the 2006 IEC Lord Kelvin Award going to Wolfgang Reichelt, owner of Block Transformatoren-Elektronik in Germany and Secretary of IEC Technical Committee 96, *Transformers, reactors, power supply units and similar products for low voltage up to 1100 V*, who gave an enthusiastic endorsement of why industry participates in the IEC.

Renzo Tani also presented honorary pins to six IEC Past Presidents: Roy McDowell, Hans Gissel, Bernie Falk, Mathias Fünfschilling and Sei-ichi Takayanagi. The Past Presidents all shared their memories of their time at the helm of the Commission. An honorary pin for the late Richard Brett was also delivered to Mrs. Brett.

Highlights of the afternoon included four short films projected in high-definition. The first traced the historical development of the IEC; the second showed how experts and engineers transform natural phenomena into electrical energy; the third covered the benefits given to the market by the IEC, while the fourth gave insights into the future. ■



Letter to the IEC from former UN Secretary-General, Kofi Annan.



Pascal Lamy, World Trade Organization Director-General.



Centennial session.

CHAPTER 4

Financial Overview

Financial performance

The IEC is financed by a combination of membership dues and revenues from the sales of its publications. In 2006, the total membership dues amounted to CHF 12,07 million while revenues from sales (both direct sales and royalties) came to CHF 7,81 million, which along with other revenues resulted in a total net income of CHF 22,12 million.

Despite the added burden of financing the IEC Centenary projects and initiatives, expenditure was effectively controlled to produce a net surplus for 2006 of CHF 748 841.

Operational expenses, including rental for the IEC Central Office, fell substantially in 2006, while personnel expenses increased by less than the Swiss inflation rate of 1,2%.

Key indicators for the IEC consolidated Profit and Loss Account for the year ended 31 December 2006

	2006	TOTAL INCOME 2006	2005
	CHF	%	CHF
Dues	12 072 720	54,57%	12 066 574
- Group A* dues	4 765 000	21,54%	4 775 000
- Associate Members	439 600	1,99%	346 500
Sales	7 813 209	35,32%	6 574 834
- Net paper and electronic sales	2 906 844	13,14%	2 812 670
- Royalties	4 906 365	22,18%	3 762 164
Conformity Assessment income	1 333 375	6,03%	1 193 151
TOTAL NET INCOME	22 121 946	100%	20 443 876
Personnel costs	14 150 435	63,96%	14 047 426
TOTAL EXPENSES	21 373 105	96,61%	19 149 520
SURPLUS FOR THE YEAR	748 841	3,38%	1 294 356

* Group A comprises France, Germany, Japan, the United Kingdom and the United States.



CHAPTER 5

Global Reach

More participants, better participation, increased cooperation

2006 saw an increase in the number of members from 65 to 67 countries, while the number of countries participating in the IEC Affiliate Country Programme rose to 72 countries. As of 31 December 2006, therefore, the IEC Family counted a total of 139 countries.

Members welcomed

With its new status, Serbia became a full member of the IEC, while Nigeria and Sri Lanka successfully established their respective national electrotechnical committees and joined the IEC.

Support to members

As part of the IEC's ongoing technical and operational support to its members, a number of country workshops and country dialogues were held in 2006. The country dialogues and workshops were held on the role of national electrotechnical committees and on the IEC's standardization procedures. These events were held in China, Croatia, India, Kazakhstan and Sri Lanka. In addition, the IEC participated in events for the Canadian and US National Committees.

On 22-23 May in Beijing, China, the IEC organized a workshop on *IEC safety standards in support of regulatory requirements*. The event, which brought together more than 150 delegates from 14 countries (mostly from Asian countries, especially China), was hosted by the Chinese National Committee of the IEC (the Standardization Administration of

China – SAC) and proficiently organized by the China Electrical Equipment Industry Association (CEEIA) and CHINT Group Corp. The Workshop had been initiated by IEC's Advisory Committee on Safety (ACOS) as a response to the increasing use of IEC safety standards in technical regulations by governments in industrialized and developing countries.

Regional Centres update

The IEC regional centres in North America and Asia-Pacific continued to evolve in 2006, with the Boston office moving to larger facilities and taking on more technical work bringing the total to 49 technical and subcommittees, while the Singapore office maintained its technical committee management to six technical committees and subcommittees.

As true extensions of the IEC Central Office activities in Geneva, the regional centres continued to demonstrate the successful decentralization of the Commission's technical work.

The Asia-Pacific Regional Centre continued its promotional efforts in 2006 with several country visits and regional workshops. These included:

- ASEAN JSC EEE (Joint Sectoral Committee for Electrical and Electronic Equipment) meeting, Philippines;
- IEC Asia-Pacific Centenary Workshop in conjunction with 5th JISC/IEC/APSG HRD training, Singapore;
- IEC Immediate Past President visit to Thailand and Vietnam promoting the *IEC Masterplan 2006*;
- IEC National Seminar hosted by Malaysian National Committee; ▶

-
- Vietnam Workshop on Quality, Safety and MRA (Mutual Recognition Agreements) hosted by Vietnam National Committee.

In addition, the IEC-APRC also hosted several Working Group meetings.

A regional manager was recruited for a third regional centre, this time for Latin America, and "running in" operations were started in late 2006 with a view to a formal opening of the São Paulo office in Brazil in 2007.

IEC Affiliate Country Programme – A unique approach

The IEC Affiliate Country Programme is a unique approach to encourage greater participation in the IEC's standardization activities by developing nations around the world who are not members of the Commission and/or who are unlikely to see a short-term need to become a member.

Primarily using the extensive electronic platform developed for the IEC membership, the Programme was launched in 2001 as a direct response to calls from the WTO to encourage greater participation by all WTO members in the

standardization and conformity assessment activities of the IEC. At the time of its launch, WTO Director-General Mike Moore commended the IEC for offering the new programme as a means of encouraging greater participation from the WTO's members in the IEC's global conformity assessment schemes (IECEE, IECEX and IECQ) as well as its international standardization activities.

There was a significant increase in the adoption of IEC International Standards by IEC Affiliates in 2006. Under the Affiliate Country Programme, the procedure for Affiliates to adopt IEC International Standards has been improved, with the result that the number of countries doing so has doubled since 2005. By the end of 2006, more than 1 600 IEC International Standards had been adopted as national standards.

Three new countries – Bhutan, Niger and Togo – joined the Affiliate Country Programme in 2006 by committing to use IEC Standards and to participate in the IEC's work. This brought to 72 the number of participating countries. A further 21 countries have been or are being invited to join the Programme. ▶

- ▶ In 2006, 28 Affiliates identified the standardization activities they wish to follow and participate in and, as a result, some 200 experts have been granted access to the IEC standards development documents with a view to seeking their technical comments on IEC projects. Fifteen Affiliate countries have selected the full choice of 10 technical fields to start work on IEC technical documents. It is hoped that as the Programme continues to mature, experts from Affiliate countries will begin to gain more confidence in submitting comments on IEC working documents.

Forty-eight countries have started a basic electronic library of International Standards, tailored according to their domestic needs. Under the Programme all countries are able to order 200 IEC Standards free of charge, delivered in electronic format. Thirty countries have almost reached their quota; some of them are now purchasing additional publications or are considering becoming members of the IEC.

Twenty-two Affiliate countries were represented at the IEC 70th General Meeting in Berlin. Ten sent one or two delegates (Congo DRC, Costa Rica, Kyrgyzstan, Lebanon, Moldova, Rwanda, Sudan, Tanzania, Uruguay and Yemen), while 12 more, from the Southern African Development Community (SADC), sent a coordinating representative. Thirteen Affiliate delegates took part in 19 technical meetings and had an opportunity to observe the work of IEC technical committees.

Carlos Rodriguez, Executive Director of INTECO (Instituto de Normas Técnicas de Costa Rica), was nominated as the new Leader of the IEC Affiliate Country Programme by the IEC General Secretary, Aharon Amit, in August.

He represented all Affiliates for the first time at the IEC General Meeting in Berlin in September. Rodriguez submitted reports on the IEC Affiliate Country Programme to the IEC Management Bodies responsible for standards development and conformity assessment, and gave an update on the Affiliates' participation.

Some 20 delegates attended a workshop on *Participation in IEC standardization activities and conformity assessment*. At the request of the Affiliates, the IECEE Executive Secretary, Pierre de Ruvo, dealt with counterfeit problems and anti-dumping measures. The workshop ended with a case study of an IECEX on-line certificate and a dialogue with IEC Conformity Assessment Scheme officers, including the chairmen of the IECEX and IECQ schemes.

Cooperation with international and regional organizations

The IEC continued to collaborate with all relevant international and regional organizations in 2006. New relationships started in 2006 included IEC's support to Africa through the African Union and the nascent African Electrotechnical Standardisation Commission (AFSEC).

In Asia-Pacific, the IEC hosted a meeting of the ASEAN regulators grouping in Singapore in November, and attended meetings of CANENA, COPANT and PASC. In Latin America, the IEC's cooperation with MERCOSUR and the Andean community was renewed. In Europe, the IEC continued to work with CENELEC by offering the same set of collaborative tools used by experts in the IEC and CENELEC technical work. In the Gulf region, the IEC briefed members of the Gulf Cooperation Council ▶



Affiliate Country Programme leader Carlos Rodriguez.

-
- ▶ (GCC) on the benefits of IEC membership. While several GCC countries have now established subscriptions to the IEC collection of standards, it is hoped that some will be seeking IEC membership in 2007.

International partners

Perhaps the most important partner for building awareness and increasing use of IEC Standards is the World Trade Organization (WTO), and the IEC developed its working relations with the WTO throughout 2006. This culminated in WTO Director-General Pascal Lamy's dialogue with IEC members during the IEC General Meeting (see Chapter 3).

The IEC attended three meetings of the Technical Barriers to Trade (TBT) Committee in March, June and November. In March, the IEC's conformity assessment schemes were centre-stage at a TBT workshop on conformity assessment. At the November meeting of the TBT, the IEC gave a comprehensive update of its commitment to helping all WTO members in getting the most from the Commission's electrotechnical standardization and conformity assessment activities.

The IEC participated as a partner organization in three regional TBT workshops in 2006: in Montevideo, Uruguay, in March; in Nadi, Fiji, in June for the Pacific Island States; and in Tunis, Tunisia, in September for the French-speaking African countries.

The IEC worked under the auspices of the World Standards Cooperation (WSC) to finalize a common patent policy among the IEC, the International Organization for Standardization (ISO) and both the

International Telecommunication Union (ITU) Telecommunications (ITU-T) and Radiocommunications (ITU-R) bureaus. WSC events in 2006 included *Digital Technologies in the Home*, held in February and which brought together more than 80 leading chief technology officers and technologists from companies including Sun Microsystems, Hewlett-Packard, Sony, Mitsubishi, Intel, Philips, Schneider Electric and Swisscom, and leading industry groups such as DLNA, DSL Forum and Zigbee. The conclusions from the conference were that household connectivity is growing rapidly with more and more electronic devices and networks within the home distributing and using digital information and media. In addition, remote control of lighting, heating, appliance-use and security systems attached to the home are making the "digital home" a reality.

Given the various technologies involved, International Standards that enable interoperability and security are seen as key to bringing value and versatility to consumers, making possible the use of diverse products, services and sources, and therefore accelerating market development. As to the role of IEC, ISO and ITU, the overall message from participants was a call for closer cooperation between the three WSC members, standards developing organizations and industry consortia.

IEC increased its cooperation with the ITU with the opening of facilities for the exchange of IEC working documents and Standards for ITU experts. The IEC also participated in the ITU's celebration of 50 years of dedicated standardization activities within the ITU-T bureau. ▶

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- ▶ With ISO, the IEC organized a joint workshop on intellectual property rights in June and a joint marketing and communications forum in December. The IEC General Secretary and ISO Secretary-General agreed on a number of joint IEC and ISO presentations where the two organizations could be presented at the same time by one of the General Secretaries. After a promising start arising from a request from an ISO technical committee, the IEC continued to encourage greater use of its database standards initiatives by ISO.

IEC and ISO also cooperated on the branding and packaging of ISO/IEC Joint Technical Committee 1 on Information Technology standards on DVD.

Close collaboration for developing nations

IEC is participating in the Joint Committee on Co-ordination of Assistance to Developing Countries in Metrology, Accreditation and Standardization (JCDCMAS) together with BIPM, IAF, ILAC, ISO, ITC, ITU-T, OIML and UNIDO. JCDCMAS produced a background paper on building corresponding technical infrastructures to support sustainable development and trade in developing countries and countries in transition. A first common workshop was held in Peru in October 2006 on developing metrology, accreditation and standardization capacities in the Andean region, particularly in view of bilateral and regional free trade agreements.

In addition, the IEC Affiliate Country Programme Secretariat and the ISO DEVCO (Programme for Developing Nations) Secretariat are cooperating closely on their respective programmes for developing nations.

The IEC is hoping to develop a common presentation module with ISO on international standardization, membership, assistance programmes for developing countries and adoption of International Standards. It is hoped that such a module can be used as part of the IEC and ISO participation at WTO workshops.

Academia

In addition to the IEC Centenary Challenge (see Chapter 2), IEC continued its outreach to academia with the launch of a second lecture series following the *International Standardization in Business, Industry, Society and Technology* series produced in 2005. The second series, entitled *The Importance of Standards*, contains three parts: Introduction to Standards; Life Cycle of Standards; and Economic Value of Standards. While the first series was aimed at engineering schools and colleges, the second series, developed by Tineke Egyedi, at Delft University of Technology in the Netherlands, is targeted at business and management schools.

In addition, the IEC participated in a seminar entitled *Electrifying Cultures: standardization versus diversity in histories of artefact and experiment*, which was held in September 2006 to celebrate the 50 years of the Division of History and Philosophy of Science at the University of Leeds in the UK. Graeme J.N. Gooday, Senior Lecturer in History and Philosophy of Science at this UK university, who has been instrumental in putting together the historical facts behind the IEC's interactive centenary 100-year *Techline*, gathered together some 30 specialists from around the world to consider the role played by standardization in the history of technology and scientists. ▶



Leeds University.

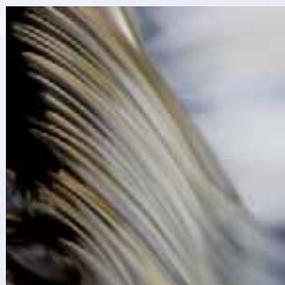
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- The papers presented during the two-day conference focused mainly on the electrical developments of the more recent past and were grouped under the general headings of:
- 1) New technological problems of electricity;
 - 2) Problematic standards in late twentieth century technology;
 - 3) Medical electricity in international comparison;
 - 4) Telegraphic themes;
 - 5) Electrification in international comparison;
 - 6) Electricity, expertise and the body;
 - 7) Consensus and diversity in early modern electricity;
 - 8) Cultures of Micro-electricity.

Speakers came from Germany (University of Freiburg/Bonn), the UK (Universities of

Manchester, Leeds, Oxford, Aberystwyth and University College London), the Netherlands (Eindhoven University of Technology), France (CRHST, Paris), Denmark (University of Aarhus and Technical University of Denmark, Copenhagen), Italy (University of Bologna) and the US (University of Texas, Austin, and Harvard University).

IEC highlights renewable energies

The IEC participated in the *Renewable Energy 2006* conference which was held in the Chiba Prefecture, Japan. TC 82, *Solar photovoltaic energy systems* member Professor Kosuke Kurokawa gave delegates an update on the IEC's pioneering work in standardizing solar photovoltaic technology. ■



CHAPTER 6

International Standards for the Market

Technical Work

More than 9 000 experts from industry, government, academia and end-user groups from the 67 member countries participated in the 178 technical committees and subcommittees responsible for standards production in 2006. Industry representation among the technical committee officers stood at 94% in 2006.

PACT pushes electrical energy efficiency and power management

At its meeting in July, the IEC President's Advisory Committee on future Technology (PACT), which comprises leading chief technology officers from industry, gave its recommendations to IEC. These included a call to focus on energy efficiency and power management. These recommendations were taken up by the Standardization Management Board (SMB), the body responsible for overseeing the IEC technical work programme. PACT said that IEC should move forward on standards for nanotechnology, as well as wireless technologies and machine-to-machine interoperability.

Nano, electrical energy efficiency and renewables are key priorities

Under the leadership of the SMB, the IEC established its technical committee on nanotechnologies, TC 113. For now, it is to prepare standards in the field of nanotechnology relevant to electricity and related technologies that are pertinent to the IEC, liaising with other IEC TCs and relevant and interested national, regional and international standardization bodies and organizations.

IEC also started work on “ocean energy devices” in 2006. In response to National Committees' support

for IEC to start work on “ocean energy devices” and to a proposal made by TC4, *Hydraulic turbines*, the SMB decided to consult with TC 4 and TC 88, *Wind turbines* on the most appropriate way to undertake this work.

According to experts, the benefits of ocean power – technologies which rely on the motion of waves and flow or ocean currents to generate electricity – should include significant energy gains. Improved technology could enable wave-driven generators to produce electricity at the same cost as that for wind-turbine electricity.

On the subject of electrical energy efficiency, which came to the fore in the public arena, the IEC published studies on standardization of ultra high voltage (UHV) equipment and began organizing a high-level symposium on this activity with CIGRÉ. The SMB agreed with Sector Board 1, *Electricity transmission and distribution*, that there is a need for ultra high voltage standards in the near future. However, the SMB also expressed concern about whether the research done in this area was sufficient. It thus urged that before moving forward, the UHV Symposium (www.iec.ch/uhv) should be held with CIGRÉ, with research institutions and with representatives from other IEC TCs dealing with this subject to help determine needs and priorities. In view of this, TC 8, *Systems aspects for electrical energy supply*, was also considered as an important body that could play a key role in coordinating all standardization efforts. With China being particularly interested in UHV transmission equipment, the Chinese National Committee has offered to host the symposium. In the next 30 years, some experts estimate that China will invest about USD 2 trillion in electricity generation, transmission and distribution. ▶

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- ▶ In an effort to make the IEC better able to follow the evolution of industry, the SMB started a major review of the IEC's technical committees with a view to adopting a simpler structure.

TC 31 singled out for good practice

In early 2006, IEC Technical Committee 31, *Equipment for explosive atmospheres*, announced it had published a *Code of Good Working Practice*. This online working document contains a check list of all the normative standard references and numbering clauses that need to be addressed and a record of definitions, common phrases, warning and caution markings that are relevant to TC 31. At the same time, it details the step-by-step process for convening meetings and following up on drafted resolutions, action items and other project management milestones, together with all the general guidance that is necessary to good working practice.

ISO work moves to IEC

During 2006, the ISO Technical Management Board (TMB) agreed to transfer the responsibility for standards on the performance and rating of household refrigerators and freezers from ISO Technical Committee 86/ Subcommittee 5, *Refrigeration and air-conditioning/Testing and rating of household refrigeration appliances*, to IEC Technical committee 59, *Performance of household and similar electrical appliances*. The main purpose of TC 59 is to prepare standards on methods of measurement of characteristics which are important for determining the performance of household electrical appliances and which are of interest to the consumer. The scope of TC 59 may also extend to those associated aspects that are related to the use of the appliances or their classification and

requirements for the information that is provided to the consumer at the point of sale.

The environment is systematically taken into account by TC 59 and its subcommittees and working groups. As far as possible, TC 59 standards describe measurement methods for energy and water consumption, loss of detergents and airborne acoustical noise. At the same time, environmental issues are integrated wherever possible into the design and development of electrotechnical products.

IEC and ISO joint work on "Explosive atmospheres"

The IEC and ISO's TMB, agreed to create a new subcommittee to cover *Non-Electrical Equipment for use in Explosive Atmospheres*. The SMB decided that a new subcommittee be created within IEC TC 31, *Equipment for explosive atmospheres*. The new subcommittee would be ISO run, but report as a subcommittee to TC 31.

Technical Department restructured

In September, the IEC restructured Central Office by splitting the SMB, strategic activities and contacts with other international organizations from the line management of the Technical Department. As a result, the function of Technical Director was discontinued and Raymond Cordelier, who had also been Secretary of the SMB, was named Advisor to the General Secretary until his retirement at the end of March 2007.

Jack Sheldon was made Standardization Strategy Manager and, while maintaining his responsibilities for Technical Information Support and Services (TISS), and or strategic development, took over

-
- ▶ the position of Secretary of the Standardization Management Board.

Michael Casson was made Technical Department Manager, overseeing the line management activities covering IEC Central Office technical officers, administrative assistants, editors and document control staff who handle the document distribution and editing needed in the development of IEC Standards.

Standards production

A total of 499 publications were produced in 2006, of which 444 were International Standards, 15 were Technical Specifications (consensus, but insufficient for status of International Standard), 25 Technical Reports (informative documents), 13 Publicly Available Specifications (industry specifications seeking full consensus), and two Guides.

The 2006 production brought the total IEC catalogue to 5 613 publications. The average production time for IEC publications remained at 38 months, with 52% of all publications produced in under three years, 38% between three and five years, and 8% taking more than five years. Eighteen IEC publications were produced in under 12 months. Germany, Japan and the US were the leading countries proposing new standards development. Of the publications produced in 2006, some 64% were updates or maintenance of existing IEC Standards.

The average time to prepare Final Draft International Standards (FDIS) for circulation to members for final voting fell to under two months in 2006, while the publication time from

approval of the FDIS to publication was shorter than one month in 2006.

Fibre optics, electromechanical and household appliances lead production

In terms of the number of IEC Standards produced, TC 86, *Fibre optics*, was the most prolific committee producing 43 Standards, followed by TC 48, *Electromechanical components and mechanical structures for electronic equipment*, producing 27, and TC 61, *Safety of household and similar electrical appliances*, and TC 34, *Lamps and related equipment*, both producing 25. 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.

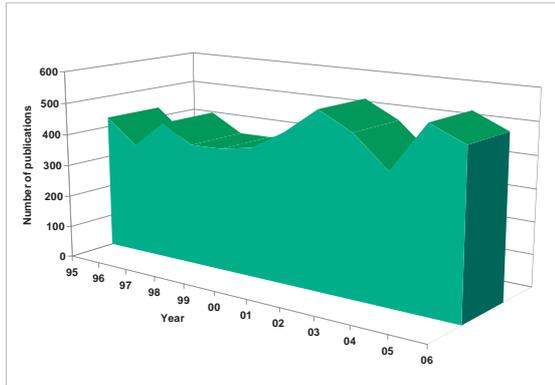
By sector, electronics was responsible for 195 publications, while the electrotechnical industry had 159, followed by safety, measurement and household appliances with 91. In terms of new projects started, electronics also led the field, being responsible for more than half of the IEC's new work programme.

Technical support to experts

Following the successful conclusion of tests on collaborative tools for experts, a decision was made to implement a common platform for all working groups. This was expected to be operational in mid-2007. The platform had been developed in collaboration with CENELEC and will permit experts active in both organizations to operate under a single platform. The platform is open to other regional organizations with common participation with IEC. ▶

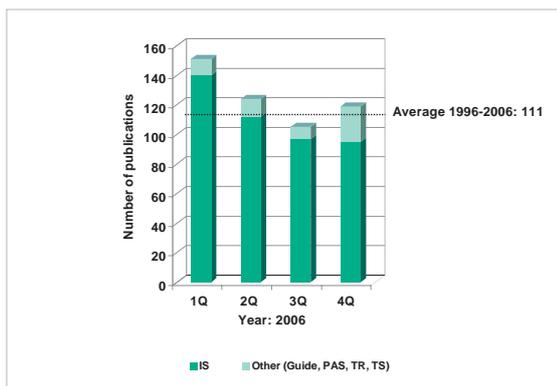
Standards Production

► PRODUCTION OF PUBLICATIONS

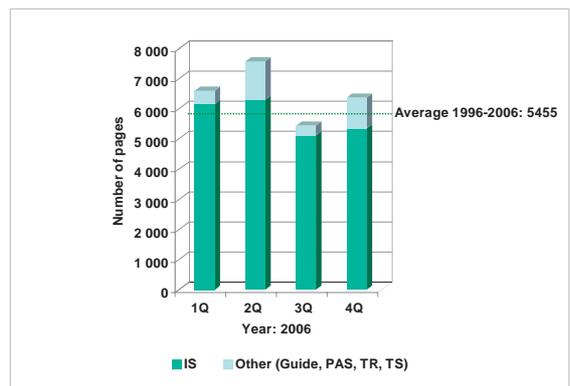


The number of publications issued in 2006 returned towards more traditional levels, with 499 publications, after the all-time high of 2005.

NUMBER OF PUBLICATIONS ISSUED (BY QUARTER)

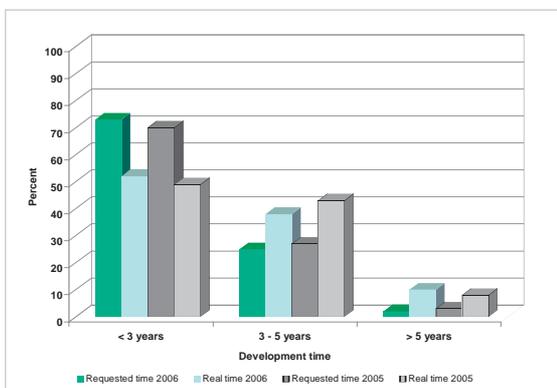


NUMBER OF PAGES ISSUED (BY QUARTER)



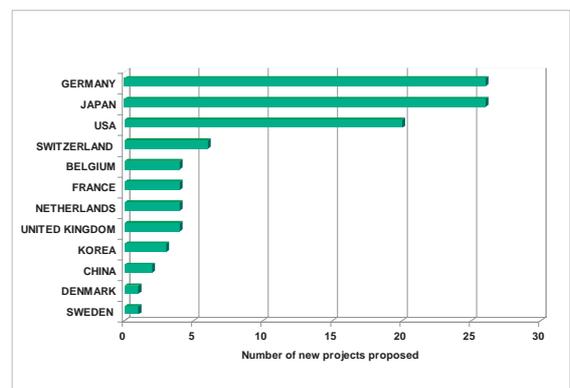
The 2006 production brought the total IEC catalogue to 5 613 publications.

AVERAGE DEVELOPMENT TIME



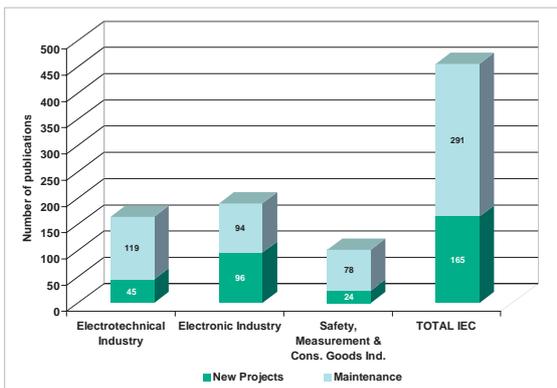
In 2006, the average development time of IEC publications remained at 38 months.

NPs BY PROPOSERS (FROM NATIONAL COMMITTEES)

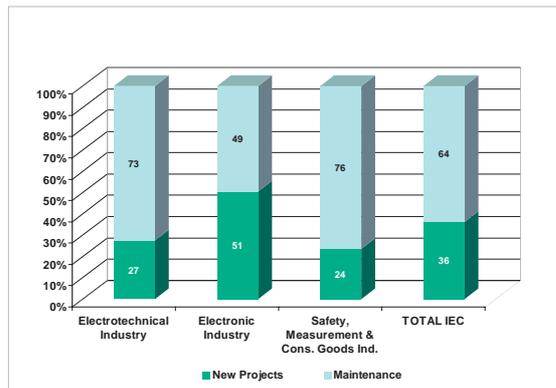


A total of 159 new projects were initiated in 2006, a figure higher than in 2005. Germany, Japan and the United States led the way in proposing new work.

DEVELOPMENT OF NEW PROJECTS COMPARED TO MAINTAINING EXISTING PUBLICATIONS

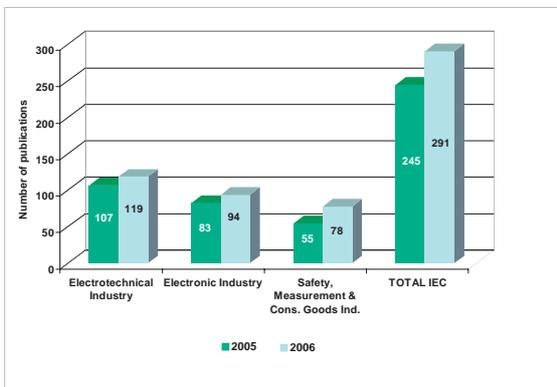


NUMBER OF PUBLICATIONS BY SECTOR (%)



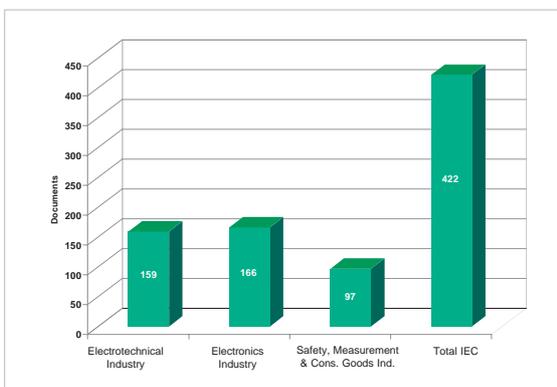
In 2006, more efforts were placed in maintaining existing standards than to developing new ones.

MAINTAINING EXISTING PUBLICATIONS IN 2006 AS COMPARED TO 2005

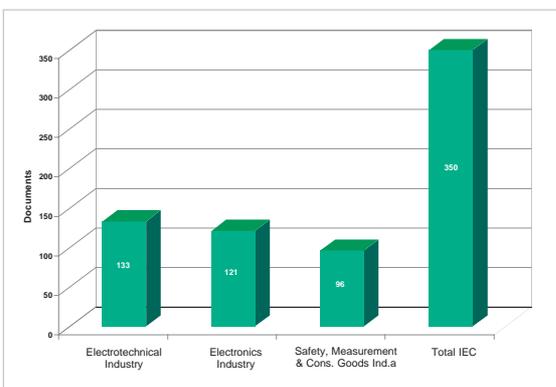


Maintenance work for the electrotechnical and electronics industries rose in all sectors in 2006.

CIRCULATED CDVs

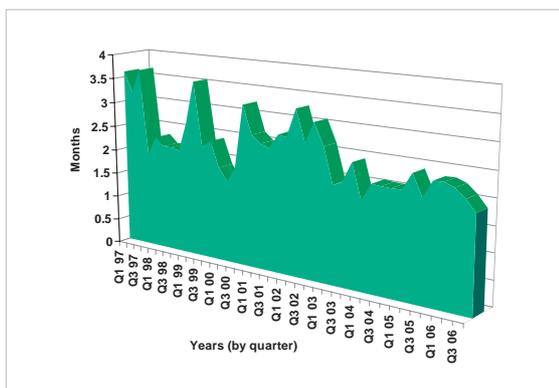


CIRCULATED FDISs

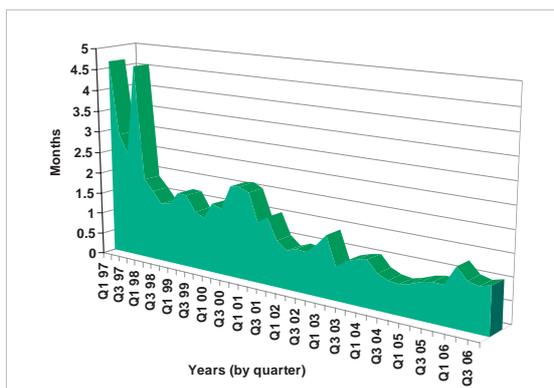


In 2006, the IEC circulated to its National Committees 442 Committee Draft for Vote documents and a total of 350 Final Draft International Standards.

▶ **AVERAGE TIME IN MONTHS TO PREPARE FDIS FOR CIRCULATION BY CENTRAL OFFICE (1997-2006)**



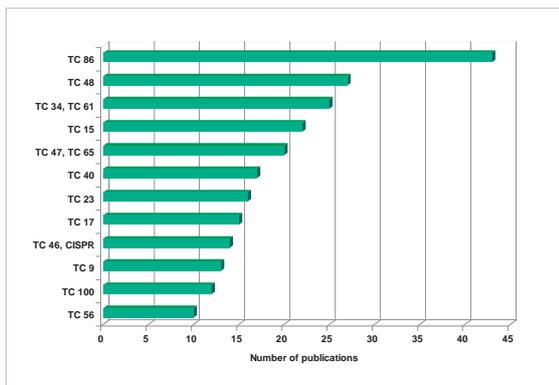
AVERAGE PUBLICATION TIME* IN MONTHS FOR IS (1997-2006)



*Time from approval of the FDIS to Publication

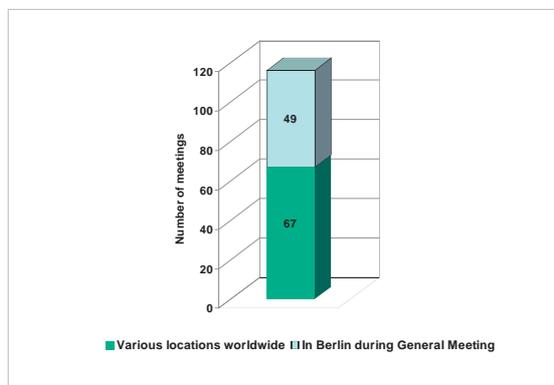
When it comes to administrative procedures, circulation time for Final Draft International Standards continues to be efficient with a time period of two months in 2006. Transformation time into publications was about one month or less on average.

TCs PRODUCING 10 OR MORE PUBLICATIONS



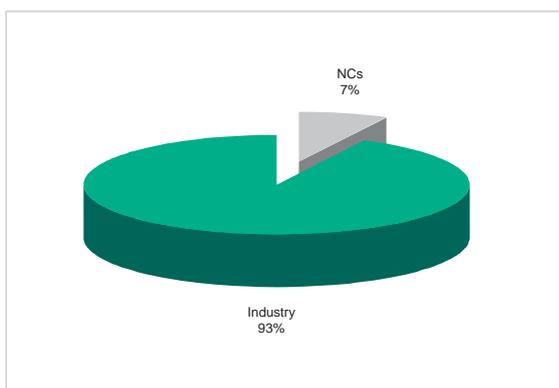
TC 86 *Fibre optics* led the way in 2006, and 15 IEC TCs including CISPR *International Special Committee on Radio Interference* produced 10 or more publications in 2006.

MEETINGS



IEC technical committees and subcommittees held a total of 116 meetings in 2006 around the world compared to 111 in 2005.

TC/SC OFFICERS' AFFILIATION



Industry remains the predominant source for TC and SC officers.

CHAPTER 7

World Class Certification

IEC certification offers global solutions

The IEC offers a one-stop shop to industry and government in that it publishes International Standards and three global certification or conformity assessment systems covering electrotechnology. All three systems operate on the principle of "peer assessment", an alternative to other approaches such as "accreditation".

Experience shows that in addition to promoting confidence among the members of the IEC conformity assessment systems, peer assessment is accepted by authorities and clients of testing and certification bodies as having at least the same value as accreditation as a method of verifying competence and building confidence. Indeed, the IEC is working with those organizations (including ILAC and IAF) where accreditation is practiced to find ways of cooperating and creating more efficient methods of operation.

IEC operates the IECEE, IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components, the IECQ, Quality Assessment System for Electronic Components, and the IECEx, Scheme for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres. In addition, IEC publishes certification standards and guides as double logo publications by working with the ISO CASCO (Policy committee for conformity assessment). 2006 saw the revision of two key certification publications: ISO/IEC Guide 43 *Proficiency testing by interlaboratory comparisons* (to become ISO/IEC 17043), and the future ISO/IEC 17021-2 *Conformity assessment - Part 2: Requirements for third party auditing of management systems*.

Conformity Assessment activities in the IEC are under the management of the Certification Management Committees at operational level and under the Conformity Assessment Board at strategy and policy level.

IECEE – Indonesia and Kenya sign up, 250 000+ test certificates valid

The IECEE handles conformity assessment to standards for electrotechnical equipment and components and includes batteries, cables and cords, capacitors as components, switches for appliances and automatic controls for electrical household appliances, electromagnetic compatibility, household and similar equipment, installation accessories and connection devices, lighting, measuring instruments, electrical equipment for medical use, IT and office equipment, low voltage, high power switching equipment, Installation protective equipment, photovoltaics, safety transformers and similar equipment, portable tools, electric toys, electronics & entertainment equipment.

A key area of coverage relates to the safety of electrical equipment although some other equipment and components are also subjected to performance and energy efficiency.

It runs two schemes: the CB Scheme and CB-FCS. The fundamental principle of the CB Scheme is that a manufacturer can obtain a CB Test Certificate for a defined product from a National Certification Body (NCB). The manufacturer can then present this certificate to the NCBs in other member countries whose certification marks he wants for his products. The CB Scheme is based on the principle of mutual recognition by its members of test

- ▶ certificates for the purpose of issuing third-party certification marks at national level. The members of the scheme commit themselves to recognize the CB Test Certificate issued by any Certification Body accepted by the scheme's management committee to operate within the scheme.

In the last five years the CB Scheme has switched from multilateral recognition to direct recognition in the various markets by buyers, retailers, vendors as well as regulators and national authorities.

The FCS in CB-FCS stands for Full Certification Scheme. The significant differences between the CB Scheme and the CB-FCS are:

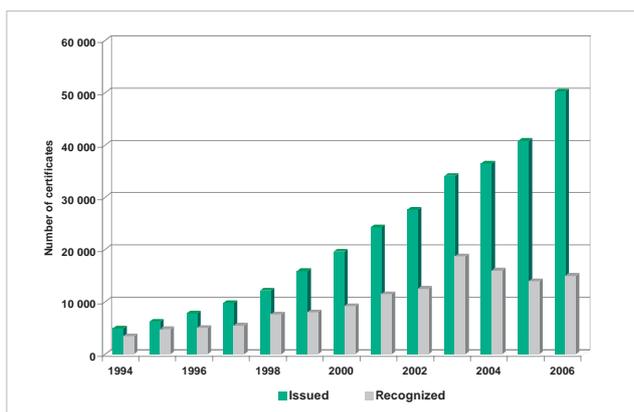
- system reports are also recognized;
- audits of manufacturers' quality management systems;
- the organization expected to recognize another's certificate (organization "B") shall not request samples unless national differences are not covered, tests are missing, etc.;
- organization "B" shall not repeat tests unless the report contains mistakes or the national differences are not covered.

The IECEE CB Scheme now counts 46 member countries, 61 national certification bodies and 218 testing laboratories, with Uruguay and Croatia joining in 2006. The CB Scheme has created a publicly available section of its online database of certificates for consultation. The scheme now counts more than 250 000 valid certificates worldwide, while 50 000 new certificates were issued in 2006.

ILAC and IECEE pursued their collaboration in 2006 with effective joint assessments, a common understanding of ISO/IEC 17025, and use of common sets of procedures as key elements of the enhanced relationship. In addition, through the Conformity Assessment Board, IAF and IECEE started collaborating in 2006 with the goals of reaching a common understanding of ISO/IEC Guide 65, starting a pilot project of joint assessments of Certification Bodies and using of common sets of procedures as key elements of the enhanced relationship.

2006 saw the first year of operations by IECEE covering electromagnetic compatibility, with a substantial number of certificates issued either as standalone or as collateral use in, for ▶

CB TEST CERTIFICATES ISSUED



As in 2005, the growth in number of CB Test Certificate continued, with 50 278 certificates issued in 2006.

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- ▶ example, electromedical equipment. The scheme also organized and sponsored several lead assessor and technical assessor training courses and workshops.

Further information may be obtained from www.iecee.org.

IECEX expands to repair and overhaul market

By providing an international certification scheme dedicated to industries where flammable liquids/gases and combustible dusts may be present, e.g. the oil and gas industries, the IECEX makes it easier for manufacturers of equipment that is intended for use in explosive atmospheres to sell their products globally. Explosive atmospheres can be any where flammable gases and vapours or combustible dusts may be present. The driving force is manufacturers and users of Ex products. It offers manufacturers a single test and assessment report for acceptance in all other participating countries.

The IECEX provides:

- reduced testing and certification costs to manufacturers;
- reduced time to market;
- international confidence in the product assessment process; and
- an Internet-based Certificate of Conformity.

The manufacture, testing and assessment of Ex products is more complex and time-consuming than non-Ex products, and thus is more costly. The typical time to achieve national certification is 12 months or more. The IECEX Scheme eliminates multiple testing and assessment. It caters for differing countries

whose national standards are either identical with, or very close to, IEC International Standards.

The IECEX Scheme has a two-path approach with two objectives in mind:

- to accommodate the needs and concerns of today and the immediate future through a well defined and practical transitional period;
- to provide a path to the ultimate aim of using one international certificate and mark accepted by all participating countries.

IECEX certification is extremely stringent in that it requires independent testing of samples, an assessment and audit of a manufacturer's quality system, and ongoing surveillance of manufacturer.

In 2006, IECEX grew to 26 member countries (Certificate Issuing Countries) with 31 IECEX Certification Bodies (ExCBs), 32 IECEX Test Laboratories (ExTLs), and with more bodies having applied. Japan and India were the most recent countries to join.

In March 2006, industry representatives gave IECEX the "thumbs up" saying that it successfully catered to the needs of global industry. This came during ICSCA's (Industry Cooperation on Standards and Conformity Assessment) meeting which was held in Tokyo, Japan. The meeting was organized and hosted by leading suppliers and manufacturers in the Information Technology industry such as Fujitsu, Hewlett-Packard Japan, Hitachi, IBM Japan, Matsushita Electric Industrial Co, NEC, OMRON, Siemens K.K., Sony, Toshiba and the Communications and Information network Association of Japan (CIAJ). ▶

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- ▶ The scheme offers an online system, fully accessible to the public certification database, which is an excellent tool for searching for Ex products.

In 2006, the scheme expanded its activities to cover the repair and overhaul of Ex equipment, while implementation plans for an IECEx mark of conformity were finalized.

Further information may be obtained from www.iecex.com.

IECQ develops avionics and hazardous substances programmes

The IECQ is a comprehensive worldwide programme that assesses electronic components to quality requirements and certifies their conformity to standards and specifications.

It covers:

- electronic components and related materials and processes;
- manufacturers and distributors;
- specialist contractors; and
- testing laboratories.

It offers various approval procedures to suit the circumstances. It should be noted that

compliance with ISO 9001 or ISO/IEC 17025 (as relevant) is a prerequisite of being involved in the IECQ.

IECQ grew in 2006 to register more than 650 supplier, testing laboratory and product approval certificates worldwide, all available on the schemes' new online database. The scheme developed in three industry sectors in 2006:

- in avionics, where approvals were made in USA and Europe;
- in the Hazardous Substance Process Management (HSPM) Programme which provides a process management approach to address regulatory and market requirements concerning hazardous substances in electronics and electrical equipment, through use of its Specification QC 080000 of which 2006 total sales of the Specification placed as number 14 in the top 20 selling publications of the IEC; and
- in subcontract manufacturing, allowing industries to move high-cost elements of their manufacturing process to other locations around the world.

Further information may be obtained from www.iecq.org. ■

Sales of IEC Standards outstanding

IEC sales showed outstanding performance with gross sales of IEC Standards up more than 14,2% compared to 2005, while gross royalties (those received by 2007-03-31) were up over 17,9%. Initiatives from IEC National Committees in reselling IEC products made this royalty figure very impressive, with many countries making fuller use of the IEC Central Library of publications in electronic format. All but one of the IEC Group A countries reported strong growth in sales of IEC Standards.

Looking at the best selling IEC Standards for 2006 by technical committee, TC 20, *Electric cables*, came ahead of TC 104, *Environmental conditions, classification and methods of test*, and Subcommittee 77B, *Electromagnetic compatibility – High frequency phenomena*, in quantity, while SC 65A, *Industrial-process measurement and control – System aspects*, led SC 62A, *Common aspects of electromedical equipment used in medical practice*, and TC 57, *Power systems management and associated information exchange*, in terms of value.

In terms of best selling publications by quantity, IEC 60601-1, dealing with general requirements for medical electrical equipment, sold the highest number of copies in 2006, ahead of IEC 60529, the International Standard on degrees of protection provided by enclosures. IEC 61000-4-3, one of the publications in the electromagnetic compatibility series of standards, came third.

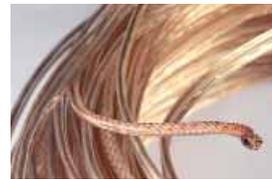
The IEC launched a new subscription pricing model for all members to offer customers large maintained collections of IEC Standards on an annual basis.

Building on the IEC Sales Solutions Network initiative, created in 1999 with annual workshops, the IEC went on the road in 2006 holding dedicated country events in France, Japan, South Korea, Sweden and the US. The Sales and Marketing Roadshows enable more personnel from National Committees and sales outlets to benefit from two days of training and dialogue to discuss services offered and expected of the IEC Central Office.

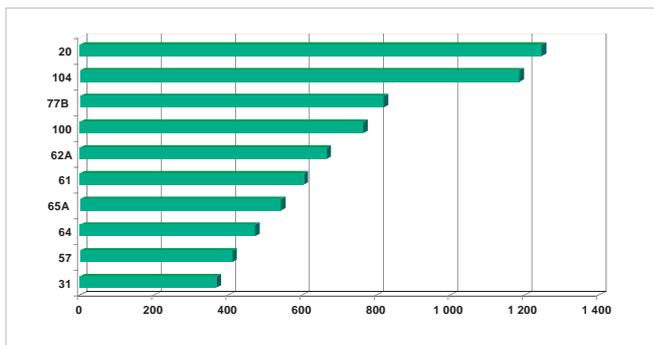
In December in Geneva, the IEC and ISO organized a joint marketing and communication forum with more than 120 marketing and communications experts from more than 50 National Committees, ISO member bodies and sales outlets. The forum was aimed at increasing the use and sales of International Standards amongst prospective users by generating added awareness. At the same time it provided an excellent opportunity to exchange and learn from the experience of the many international specialists who were gathered together.

Public and media relations

The IEC's Centenary initiatives dominated the public relations activities of the Central Office in 2006. Dedicated web pages were produced for the general public and members' pages featured resources for national promotional efforts. The interactive IEC *Techline* was a truly collaborative project with input from National Committees, technical committees and historians featuring the history of electrotechnology, the contribution of engineers and scientists, and the evolution of the IEC. This facility will be maintained on the IEC history web pages from 2007 onwards. Several ▶

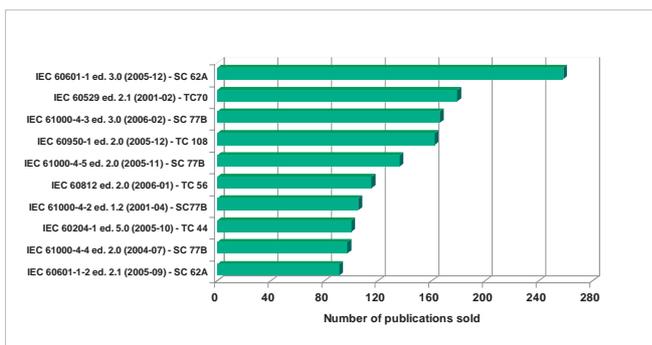


TC/SC SALES: TOP 10 BY QUANTITY



With 1 245 as the total figure, publications from TC 20 *Electrical cables* took the top spot for sales again in 2006, followed by TC 104 *Environmental conditions, classification and methods of test* with 1 185 publications sold.

BEST SELLERS BY NUMBER



IEC 60601-1 was the best selling publication in 2006, overtaking IEC 60529, which had been at the top of the list for the past six years

- ▶ IEC National Committees have developed their own national language versions of this 50 000-plus word resource.

A series of images was commissioned from the Geneva artist Thierry Clauson around the theme "Electrotechnology. A natural passion.", and colour brochures were produced to reach out to stakeholders in industry and government. In addition, the IEC exhibition was created for the Geneva and Berlin events (see Chapter 2), including interviews with current and past IEC officers.

The Council Centennial event in Berlin was also managed by the IEC Central Office, with the production of audio and visual material to support the members' celebrations. This included the production of four high-definition films charting the IEC's history and outlining its future, and the production coordination of video messages from industry and government around the world. These films will be used in other IEC projects in the future.

CHAPTER 9

Masterplan 2006

How to better serve the market

While 2006 was a key milestone in the Commission's history, it also marked publication of a completely new edition of the IEC's strategic action plan. *IEC Masterplan 2006* sets the Commission's strategic objectives for the next several years in areas such as general and technical operations, membership and participation, marketing and promotion.

Importantly, implementation of some high-priority recommendations in the plan began almost simultaneously with its approval by the IEC membership. Notably this included the introduction of a revised dues structure which from 2007 will reduce the membership fees paid by a significant number of National Committees.

General operations

On the general operations, the objectives of the Masterplan are to promote the adoption, use and strategic benefits of IEC Standards and Conformity Assessment Schemes world-wide,

while attracting and increasing industry participation in IEC management bodies. The Masterplan also outlines plans to develop an IEC "third leg" for limited-consensus publications and other services to consortia (standards and conformity assessment being the other two legs).

The plan underlines the IEC's commitment to enhancing co-operation with international standards-developing organizations, particularly ITU and ISO, to ensure efficiency and better serve the market and respective memberships.

As for new services, the IEC will be looking to develop an extensive new information service on its Standards and will continue to invest to ensure that the Commission maintains its leadership in IT-based operations.

Technical operations

The Masterplan calls for the IEC to maintain and improve the quality of standards, while providing leadership in assessing emerging technologies ▶



-
- ▶ and identifying market needs. A key area will be the IEC's efforts to attract the participation of industry and other sponsors of experts in the technical work, improving market input on needs and priorities.

While the IEC's global relevance policy was refined in 2006, the Masterplan calls for a further review of this aspect of the Commission's efforts to offer the most market-relevant standards and specifications for worldwide application.

Continued and enhanced training and support for standards developers and users are seen as key needs for the future.

Membership and participation

The strategic plan calls for guidance to be given to IEC National Committees on the benefits for

them and for the Commission as a whole of having a truly representative, financially sustainable electrotechnical committee. In addition to reductions in the membership dues, particularly important for smaller countries, the plan is to attract and encourage the participation, through the National Committees, of academia, consumers and end-users as well as industry, utilities and regulators.

Many of the initiatives started in 2006 to celebrate the IEC Centenary will be enhanced and adapted to promote global awareness among key players in the market of the strategic benefits of the IEC. These players may be industry executives, electrical engineers, government safety regulators, people using electrical equipment in the home or university professors teaching tomorrow's generation of standards users. ■



CHAPTER 10

Annexes

A/ The IEC in Figures

Valid as at 2006-12-31

The organization

▶ Members	67 National Committees
▶ Affiliate Country Programme	75 Participants
▶ Technical committees / Subcommittees	178
▶ Working groups	449
▶ Project teams	240
▶ Maintenance teams	411

Publications

▶ Total publications as of 2006-12-31	5 613
▶ International Standards	5 075
▶ Technical Specifications	169
▶ Technical Reports	311
▶ IEC/PAS	58
▶ Publications issued in 2006	497 + 2 Guides
▶ International Standards	444
▶ Technical Specifications	15
▶ Technical Reports	25
▶ IEC/PAS	13
▶ FDISs issued in 2006	349
▶ In CENELEC parallel vote	282
▶ CDVs issued in 2006	422
▶ In CENELEC parallel enquiry	320
▶ Total active projects as of 2006-12-31	1 347
▶ Average development time for IEC publications in 2006	38 months

Conformity Assessment

IECEE CB Scheme

▶ Participating countries	46
▶ National Certification Bodies	61
▶ Testing laboratories	218
▶ CB Scheme certificates issued in 2006	50 278

IECQ

▶ National Authorized Institutions (members)	14
▶ Supervising Inspectorates (certification bodies)	18

IECEX

▶ Members	26
▶ Accepted Certification Bodies (ExCBs)	31
▶ Ex testing laboratories (ExTLs)	35

B/ List of Member countries

Valid as at 2006-12-31

ARGENTINA	INDONESIA	ROMANIA
AUSTRALIA	IRAN	RUSSIAN FEDERATION
AUSTRIA	IRELAND	SAUDI ARABIA
BELARUS	ISRAEL	SERBIA
BELGIUM	ITALY	SINGAPORE
BOSNIA & HERZEGOVINA (AM)	JAPAN	SLOVAKIA
BRAZIL	KAZAKHSTAN (AM)	SLOVENIA
CANADA	KENYA (AM)	SOUTH AFRICA
CHINA	KOREA, D.P.R. OF (AM)	SPAIN
COLOMBIA (AM)	KOREA, REPUBLIC OF	SRI LANKA (AM)
CROATIA	LATVIA (AM)	SWEDEN
CYPRUS (AM)	LITHUANIA (AM)	SWITZERLAND
CZECH REPUBLIC	LUXEMBOURG	THAILAND
DENMARK	MALAYSIA	THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA (AM)
EGYPT	MALTA (AM)	TUNISIA (AM)
ESTONIA (AM)	MEXICO	TURKEY
FINLAND	NETHERLANDS	UKRAINE
FRANCE	NEW ZEALAND	UNITED KINGDOM
GERMANY	NIGERIA (AM)	UNITED STATES OF AMERICA
GREECE	NORWAY	VIETNAM (AM)
HUNGARY	PAKISTAN	
ICELAND (AM)	POLAND	
INDIA	PORTUGAL	

AM = Associated Member

C/ List of Affiliate countries

Valid as at 2006-12-31

ALBANIA	ERITREA	NAMIBIA
ANGOLA	ETHIOPIA	NEPAL
ANTIGUA AND BARBUDA	FIJI	NIGER
ARMENIA	GEORGIA	PANAMA
BANGLADESH	GHANA	PAPUA NEW GUINEA
BARBADOS	GRENADA	PARAGUAY
BELIZE	GUATEMALA	PERU
BENIN	GUINEA BISSAU	RWANDA
BHUTAN	GUYANA	SAINT LUCIA
BOLIVIA	HAITI	SENEGAL
BOTSWANA	JAMAICA	SEYCHELLES
BRUNEI DARUSSALAM	JORDAN	SIERRA LEONE
BURKINA FASO	KYRGYZSTAN	SUDAN
BURUNDI	LAO PDR	SWAZILAND
CAMBODIA	LEBANON	TANZANIA
CAMEROON	LESOTHO	TOGO
COMOROS	LIBYAN ARAB JAMAHIRIYA	TURKMENISTAN
CONGO (DEMOCRATIC REP. OF)	MALAWI	UGANDA
COSTA RICA	MALI	URUGUAY
CÔTE D'IVOIRE	MAURITANIA	VENEZUELA
CUBA	MAURITIUS	YEMEN
DOMINICA	MOLDOVA	ZAMBIA
DOMINICAN REPUBLIC	MONGOLIA	ZIMBABWE
ECUADOR	MOZAMBIQUE	



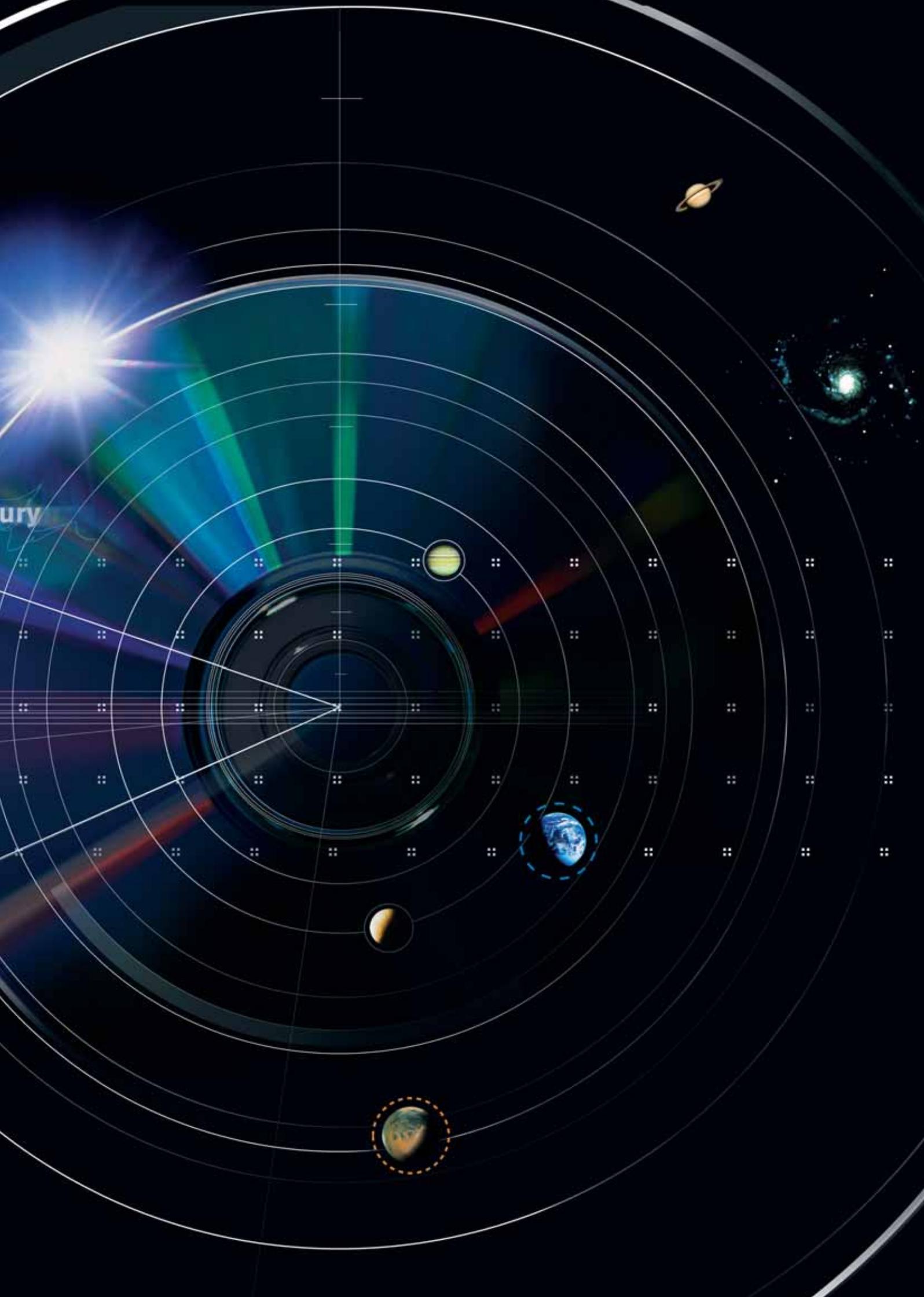
D/ Glossary of abbreviations

ACOS	ADVISORY COMMITTEE ON SAFETY
AFSEC	AFRICAN ELECTROTECHNICAL STANDARDISATION COMMISSION
APRC	ASIA-PACIFIC REGIONAL CENTRE
APSG	ASIA-PACIFIC STEERING GROUP
ASEAN	ASSOCIATION OF SOUTHEAST ASIAN NATIONS
BIPM	INTERNATIONAL BUREAU OF WEIGHTS AND MEASURES (BUREAU INTERNATIONAL DES POIDS ET MESURES)
CAB	CONFORMITY ASSESSMENT BOARD
CANENA	COUNCIL FOR HARMONIZATION OF ELECTROTECHNICAL STANDARDS OF THE NATIONS OF THE AMERICAS (CONSEJO DE ARMONIZACIÓN DE NORMAS ELECTROTÉCNICAS DE LAS NACIONES DE AMERICA)
CB	COUNCIL BOARD
CB	CERTIFICATION BODY
CB-FCS	CB-FULL CERTIFICATION SCHEME
CEEIA	CHINA ELECTRICAL EQUIPMENT INDUSTRY ASSOCIATION
CENELEC	EUROPEAN COMMITTEE FOR ELECTROTECHNICAL STANDARDIZATION (COMITÉ EUROPÉEN DE NORMALISATION ÉLECTROTECHNIQUE)
CIGRÉ	INTERNATIONAL COUNCIL ON LARGE ELECTRIC SYSTEMS
CO	CENTRAL OFFICE
COPANT	PAN AMERICAN STANDARDS COMMISSION (COMISIÓN PANAMERICANA DE NORMAS TÉCNICAS)
CRHST	CENTRE DE RECHERCHE EN HISTOIRE DES SCIENCES ET DES TECHNIQUES
DKE	GERMAN COMMISSION FOR ELECTRICAL, ELECTRONIC & INFORMATION TECHNOLOGIES OF DIN AND VDE (DEUTSCHE KOMMISSION ELEKTROTECHNIK ELEKTRONIK INFORMATIONSTECHNIK IM DIN UND VDE)
DLNA	DIGITAL LIVING NETWORK ALLIANCE
DSL	DIGITAL SUBSCRIBER LINE
EXTL	IECEX TEST LABORATORY
EXCB	IECEX CERTIFICATION BODY

▶ FDIS	FINAL DRAFT INTERNATIONAL STANDARD
GCC	GULF COOPERATION COUNCIL
HSPM	HAZARDOUS SUBSTANCE PROCESS MANAGEMENT
IAF	INTERNATIONAL ACCREDITATION FORUM INC
ICSCA	INDUSTRY COOPERATION ON STANDARDS & CONFORMITY ASSESSMENT
IECEE	IEC SYSTEM OF CONFORMITY ASSESSMENT SCHEMES FOR ELECTROTECHNICAL EQUIPMENT AND COMPONENTS
IECEX	CERTIFICATION TO STANDARDS FOR ELECTRICAL EQUIPMENT FOR EXPLOSIVE ATMOSPHERES
IECQ	QUALITY ASSESSMENT SYSTEM FOR ELECTRONIC COMPONENTS
IET	INSTITUTION OF ENGINEERING AND TECHNOLOGY
ILAC	INTERNATIONAL LABORATORY ACCREDITATION COOPERATION
IMD	INTERNATIONAL INSTITUTE FOR MANAGEMENT DEVELOPMENT
IMO	INTERNATIONAL MARITIME ORGANIZATION
INTECO	INSTITUTO DE NORMAS TÉCNICAS DE COSTA RICA
ISO	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ISO CASCO	ISO POLICY DEVELOPMENT COMMITTEE ON CONFORMITY ASSESSMENT
ISO DEVCO	ISO COMMITTEE ON DEVELOPING COUNTRY MATTERS
ISO TMB	ISO TECHNICAL MANAGEMENT BOARD
ITC	INTERNATIONAL TRADE CENTRE (UNCTAD/WTO)
ITU	INTERNATIONAL TELECOMMUNICATION UNION
ITU-R	ITU RADIOCOMMUNICATION SECTOR
ITU-T	ITU TELECOMMUNICATION STANDARDIZATION SECTOR
JCDCMAS	JOINT COMMITTEE ON COORDINATION OF ASSISTANCE TO DEVELOPING COUNTRIES IN METROLOGY, ACCREDITATION AND STANDARDIZATION
JISC	JAPANESE INDUSTRIAL STANDARDS COMMITTEE
JSC EEE (ASEAN)	JOINT SECTORAL COMMITTEE FOR ELECTRICAL AND ELECTRONIC EQUIPMENT ▶

▶ MERCOSUR	SOUTHERN COMMON MARKET (MERCADO COMÚN DEL SUR)
MRA	MUTUAL RECOGNITION AGREEMENT
NC	NATIONAL COMMITTEE
NCB	NATIONAL CERTIFICATION BODY
OIML	INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY
PACT	PRESIDENT'S ADVISORY COMMITTEE ON FUTURE TECHNOLOGY
PASC	PACIFIC AREA STANDARDS CONGRESS
SAC	STANDARDIZATION ADMINISTRATION OF CHINA
SADC	SOUTHERN AFRICAN DEVELOPMENT COMMUNITY
SC	SUBCOMMITTEE
SIG	SERVICES INDUSTRIELS DE GENÈVE
SMB	STANDARDIZATION MANAGEMENT BOARD
SPRING SINGAPORE	STANDARDS, PRODUCTIVITY AND INNOVATION BOARD
TBT	TECHNICAL BARRIERS TO TRADE (WTO)
TC	TECHNICAL COMMITTEE
TISS	TECHNICAL INFORMATION SUPPORT AND SERVICES
UHV	ULTRA HIGH VOLTAGE
UN	UNITED NATIONS
UNCTAD	UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
UNIDO	UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
UPDEA	UNION OF PRODUCERS, TRANSPORTERS AND DISTRIBUTORS OF ELECTRIC POWER IN AFRICA
VDE	ASSOCIATION FOR ELECTRICAL, ELECTRONIC & INFORMATION TECHNOLOGIES (VERBAND DER ELEKTROTECHNIK, ELEKTRONIK UND INFORMATION)
WSC	WORLD STANDARDS COOPERATION
WTO	WORLD TRADE ORGANIZATION







INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

3, Rue de Varembé
P.O. Box 131
1211 Geneva 20
Switzerland

Tel: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch