How IEC International Standards and CA Systems facilitate trade

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1. Overview of the standardization world

2. Introduction to the IEC
   - Who we are
   - What we do
   - How we are organized

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PART 1

Overview of the standardization world
What is Standardization?

Standardization activities aim to formulate, and publish standards or documents with

Normative or informative value such as technical specifications, technical reports, guides, codes, etc.
What is a standard?

A document (national, regional or international)

- Consensus based
- Voluntary application
- Providing solutions to technical, commercial, societal repetitive issues
- In all sectors
- Approved by a recognized body
International Standards

• Basis of regional or national standards

• Recognized source for WTO compliance
  – contributing towards fulfilment of the World Trade Organization’s Agreement on TBT (Technical Barriers to Trade)

• Standards provide detailed technical basis for laws and regulations
International Standards - Benefits

• Involvement of all interested parties who Influence the developments and content of International Standards

• Early warning of developing markets, establish customer contacts

• Improve product safety and quality

• Rationalization and cost reduction in design and manufacturing
The world of standards

International:

IEC, ISO, ITU

Regional:

Africa (ex. AFSEC, ARSO)
Americas (ex. COPANT)
Asia-Pacific (ex. ASEAN, PASC)
Europe (ex. CENELEC, ETSI, EASC)

National Committees
(ex. Algeria, Egypt, Kenya, Libya, Morocco, Nigeria, South Africa, Tunisia)
PART 2

Introduction to the IEC
Who we are

• IEC is a voluntary association of National Committees that fully represent electrotechnical interests in their countries
  – Government, industry, testing laboratories, academia, consumer groups…

• Membership – one member per country
  – Full Members (60)
  – Associate Members (23)

• Affiliate Country Programme
  – 84 participants (as of 2015-10)
IEC Family: 167 countries

83 Members

84 Affiliates
Global knowledge platform
20,000 experts
174 Technical Fields (SC/TC)
526 working groups
Over 9,000 standards
What we do
Scope of the IEC

Energy generation and the millions of devices and systems that use or produce electricity and contain electronics.
Standards put in practice...

• Is a product what it appears to be?

• Does a system function like it should?

• What about:
  – Safety?
  – Performance?
  – Reliability?

...through conformity assessment!
IEC two main activities

INTERNATIONAL STANDARDS

GLOBAL CA SYSTEMS
IEC International Standardization

National level
- Industry
- Government
- Academia
- Users
- Etc.

Technical Committees
- National Committees
- Standards output

Requirements
Work items

Expert resources
Ensuring transparency and neutrality
Meeting needs of first, second and third parties
Making services accessible by all economies
Efficiently serving present and future needs of international trade
Increasing industry participation in decision making
Collaborating with ISO/CASCO
Working closely with ILAC, IAF etc.
Administrates four CA international systems (third-party)
IEC Conformity Assessment Systems

• Global
• One test, one certification, one mark
• Remove delays and costs of multiple testing and approval:
  – Products get to market more quickly and expense reduced
  – Trade barriers caused by different certification criteria in various countries reduced
  – New markets opened up
• Help to ensure a fair global trading system in accordance with WTO
CAB - Conformity Assessment Board

IECEE
System of Conformity Assessment Schemes for Electrotechnical Equipment and Components

IECEEx
System for Certification to Standards Relating to Equipment for use in Explosive Atmospheres

IECQ
Quality Assessment System for Electronic Components

IEC RE
IEC General System for Certification to Standards relating to plant, equipment and services associated with Renewable Energy Systems

IEC
Wind Energy Scheme

IEC Solar Energy Scheme

IEC Marine Energy Scheme
IECEE

System for conformity assessment schemes for electrotechnical equipment and components
IECEx

Worldwide system for certification to standards relating to equipment for use in explosive atmospheres
Examples of industries covered

- Automotive refuelling stations and petrol stations
- Oil + gas extraction
- Oil refineries, rigs and processing plants
- Gas pipelines and distribution centres
- Chemical processing plants
- Printing industries, paper and textiles
- Hospital e.g. operating theatres
- Aircraft refuelling and hangars
- Surface coating industries
- Textiles

- Mining
- Sewerage treatment plants
- Grain handling and storage
- Woodworking areas
- Sugar refineries, storage, packaging + distribution
- Metal surface grinding, especially aluminium dusts and particles.
- Transportation
- Pharmaceuticals
- Food processing
- Furniture manufacturer
- + many others …
IECQ

Quality Assessment System for Electronic Components
IECQ work

- Active components, such as integrated circuits
- Passive Components
- Hybrid Integrated Circuits
- Printed Circuit Board and Assemblies
- Electromagnetic Components
- Opto Electronics
- Electromedical Components
- Wires and Cables
- Process Systems
- Hazardous Substances, IECQ HSPM
IEC System for Certification to Standards Relating to Equipment for Use in Renewable Energy Applications
How we are organized
IEC Management Structure

COUNCIL (C)
(Full Member National Committees)

COUNCIL BOARD (CB)

EXECUTIVE COMMITTEE (EXCO)
(IEC Officers)

CENTRAL OFFICE
(The Executive)

STANDARDIZATION MANAGEMENT BOARD (SMB)
Management of International Standards work

MARKET STRATEGY BOARD (MSB)
Technology watch / market priorities

CONFORMITY ASSESSMENT BOARD (CAB)
Management of conformity assessment policies, activities and systems

Management Advisory Committees

Technical Committees
Technical Advisory Committees
Strategic Groups
Systems Work

Special Working Groups

CAB Working Groups
IECEE
IECEx
IECQ
IEC Regional Centres

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More about the IEC-ReCNA Office
IEC and developing countries
In 2001 IEC had stable membership (since 1906!), but membership requirements were deterring developing countries.

World Trade Organization was looking for ways “to ensure effective participation of Members, and particularly of developing country Members in [international standardization organizations] activities.”

The IEC found a unique approach to ensure that participation.
A unique approach

- Dual commitment: Affiliate country commits to using our standards, the IEC provides the tools
- No participation fee, no right to vote, not a form of membership
- 100% electronic environment / correspondence
- 200 free IEC International Standards for adoption
- Selection of 10 technical fields to access and comment on working documents with technical logins
- Affiliate Plus status
- Mentoring Programme for Affiliate Plus
- ACAS (Affiliate Conformity Assessment Status)
- Attendance at IEC General Meetings
- A Leader, a Secretariat, a dedicated section of the IEC website
PART 3

IEC in Africa
IEC in Africa

8 Members

40 Affiliates
IEC Affiliate countries and invited countries

AMERICAS
Antigua and Barbuda
Barbados
Bahamas
Belize
Bolivia
Costa Rica
Dominica
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Montserrat
Nicaragua
Panama
Paraguay
Peru
St Kitts and Nevis
St Vincent & Grenadines
Saint Lucia
Suriname
Trinidad and Tobago
Uruguay

AFRICA
Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Chad
Comoros
Congo
Côte d'Ivoire
DRC Congo
Djibouti
Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea Bissau
Gui.Equatorial
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Namibia
Niger
Rwanda
Senegal
Seychelles
Sierra Leone
South Sudan
Sudan
Swaziland
Tanzania
Togo
Uganda
Zambia
Zimbabwe

ASIA
Afghanistan
Armenia
Azerbaijan
Bangladesh
Bhutan
Kyrgyzstan
Lebanon
Maldives
Mongolia
Myanmar
Nepal
Palestine
Syria
Tajikistan
Turkmenistan
Uzbekistan
Yemen

ASIA-PACIFIC
Brunei Darussalam
Cambodia
Fiji
Lao PDR
Papua New Guinea
Solomon Islands
Samoa
Tonga
Affiliate participation in Africa

- Electronic library: 5260 IEC IS used in 32 African countries
- Adoptions
  - 2388 IEC IS as national standards in 17 Affiliate countries in Africa
- 23 National Electrotechnical Committees
- 11 Affiliate Plus
- 9 ACAS countries
- Mentoring partnerships
  - France-Côte d’Ivoire
  - France-DRC
  - Germany-Ethiopia
  - Austria-Zambia
  - Austria-Rwanda
- Participation in the General Meeting
IEC-AFRC Inauguration

- 2 November 2015
- Resource for members and affiliates
- Link to Central Office and IEC TC/SC Experts
Mission

• As the regional focal point for Africa, the IEC Africa Regional Centre will provide training and mentoring to assist African countries in adopting and using IEC International Standards and Conformity Assessment Systems.

• IEC-AFRC aims to motivate more African countries to join the IEC as a Member or an Affiliate. The Centre will also support them in their participation, no matter their level of commitment.
Main Tasks

The main tasks of IEC-AFRC are to:

• Provide training and technical assistance
• Raise the awareness of IEC International Standards and the IEC Conformity Assessment Systems both among governments and of local industries
• provide a link between the global IEC and all African countries
• Visit and support all IEC Members and Affiliate Country Programme participants in the region
• Work closely with the African Electrotechnical Standardization Commission (AFSEC), the African Union and all the other regional bodies that are important for African development
• Involve more African countries at the governmental level in IEC work
• Ultimately become a technical centre that helps coordinate IEC work like our other Regional Centres

All of the above will be achieved by improved communications with businesses, industries and governments in the region
IEC-AFRC – Action plan 2016

- Visits to IEC Members during the 1st trimester of 2016 (Algeria, Egypt, Kenya, Morocco, Nigeria, Tunisia)
- Visits to ECOWAS and UEMOA Commissions
- Visits of Senegal, Benin, Burkina Faso, Côte d’Ivoire
- Participation to Africa 2nd Smart Grid Forum in Egypt
- Participation to regional events (GA of AFSEC, ARSO, other regional meetings: SADC…)
- IECEx Event in South Africa and meeting with South African National Committee
Conclusion

• Important effort is made by IEC to involve all countries in its global standardization and conformity assessment activities.

• Participation in IEC standardization work by countries all over the world helps to fulfil WTO objectives.

• IEC Conformity Assessment Systems facilitate recognition and trade all over the world.

• IEC- AFRC aims to help African countries to participate fully in IEC work and will facilitate intra regional and international trade of electrotechnical products regard to WTO objectives.
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Thank you