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IEC Summary report
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IEC
Update on activities 2014
The IEC is the world leading platform for the development of globally relevant International Standards in electrotechnology and is the only organization to support all forms of conformity assessment while offering a globally standardized approach to certification through its four CA (Conformity Assessment) Systems. The IEC vision and mission is to stimulate broad use and preference for IEC work so as to enable global trade, the building of sustainable infrastructure and enhance stakeholder value in the fields of electricity, electronics and all associated technologies.

Systems approach
IEC International Standards allow companies from around the world to collaborate and develop devices that interoperate with others.

However, with the acceleration of technology development and increasing technological integration, there is a growing need for International Systems Standards. This is a new territory that will fundamentally change how the IEC develops International Standards and Conformity Assessment Services.

Over the past months the IEC has put in place new processes and structures that enable us to develop such Systems Standards and systems conformity assessment services. Those new structures include Systems Evaluation Groups (SEGs); Systems Committees (SyCs) and the Systems Resource Group (SRG).

Systems evaluation group
SEGs only exist for a limited period of time, normally up to two years and report to the IEC SMB (Standardization Strategy Board).

The role of a SEG is to trace systems boundaries, develop architectures as well as identify standardization gaps and missing processes. All relevant organizations are invited to share their expertise and participate as equal partners on the IEC global, neutral and independent platform. This avoids duplication, creates synergies and leads to faster and better outcomes.

Systems Committee
Once a SEG has completed its mandate it may be transformed into a SyC.

The SyC identifies high-level interfaces, defines reference architectures, use cases and functional requirements and prepares relevant Systems Standards.

It spans multiple Technical Committees and includes organizations outside of the IEC, such as for example Consortia, Fora and standards development organizations. There is a strong drive to include all relevant work and expertise and encourage cooperation.

Systems Work in the IEC
The first deployment of systems work has now started. Three SEGs (Systems Evaluation Groups) were initiated:
• SEG 1: Smart Cities;
• SEG 2: Smart Grid;
• SEG 3: Active Assisted Living.

The SEGs on Smart Grid and AAL (Active Assisted Living) have completed their work, resulting in the setting up of the first SyCs on Smart Energy and AAL.

Systems and Conformity Assessment
Conformity assessment in a systems approach will look at the whole system and its design as well as all the individual parts of the system and their set-up and installation. It will oversee inspection, maintenance and repair services and the competence of the personnel executing them, down to system end-of-life management. There is strong interest for this approach from insurers, investors and regulators who have to manage risk.

IECEx already largely operates in this way. IECEx has emerged as a significant brand and is "top of mind" for any industry that is confronted with an Ex (explosive) area. As a matter of fact Ex environments are part of many industries; anywhere where combustible dusts, flammable liquids or gases are present. The most obvious include mining, the petrochemical, textile or food industry, flower or saw mills, grain storage and many more.

IECEx covers components, equipment, systems as well as service providers and persons and has positioned itself as the complete compliance solution in the Ex sector.
The new IECRE System, which is currently being put in place for renewable energy, will follow a similar path.

IECRE
IECRE will cover the certification needs of renewable energy technologies in wind, marine and solar. This not only involves product certification but it requires a systems approach to ensure that the whole value chain from devices to installation, maintenance and repair is quality ensured.

IECRE will also include risk management because some risk factors, such as for example the transportation of a wind turbine from the factory to the installation site may require special attention to ensure overall systems performance.

Affiliate Country Programme
With the IEC Affiliate Country Programme, the IEC has brought the advantages of its work to the developing world. With 83 developing countries participating free of charge, this is the only Programme of its kind in the world. It allows developing countries to comply with the WTO TBT Agreement and to take an active part in IEC International Standards development. IEC Affiliates are able to select up to 400 International Standards free of charge for national adoption. They are also encouraged to use IEC Conformity Assessment Systems and receive training and mentoring where needed.

In the past, Affiliate countries where able to join an IEC CA System but after three years they had to become an IEC Associate Member or leave the System. At the last General Meeting, the CAB relaxed this condition and lifted the three year provision. Now any Affiliate country, with approval of the IEC General Secretary and CEO can decide in its own time when it wants to join the IEC.

The IEC also put in place ACAS (Affiliate Conformity Assessment Status) to allow developing countries to be able to recognize IEC Conformity Assessment certificates at the national level whenever possible. ACAS allows them to make more concrete use of IEC International Standards and Conformity Assessment Systems.

To improve the knowledge and understanding of IEC CA activities, ACAS learning modules are progressively being created and published.

The IEC has also put in place a mentoring programme for Affiliates. Several partnerships have been established, notably between: Afghanistan-Malaysia, DR Congo-France, Côte d'Ivoire-France, Ethiopia-Germany and Rwanda-Austria.

Young Professionals Programme

Standardization and conformity assessment work are increasing both in quantity and in complexity. This implies that more experts with adequate knowledge need to get involved in IEC work. To achieve this, the IEC launched the Young Professionals Programme in 2010 at the IEC General Meeting in Seattle. The Programme is now in its 5th season and so far has brought together 274 participants from 42 countries. The networking opportunity with experts in similar fields of activity is particularly valued. Feedback from IEC Young Professionals also contributes to improving IEC processes.

National Committees and national industry who sent upcoming IEC experts to the IEC Young Professionals Programme reported direct benefits in terms of increased participation in national work and gain of know-how and expertise. The IEC has now put in place guidelines that aim to help National Committees to replicate this successful concept in their own countries.

IEC White Papers

As part of its continuous technology and market watch, the MSB identifies future technologies and trends of interest to the IEC. Three White Papers and one Technology Report were recently drafted and published. The purpose of the White Papers is to ensure IEC International Standards and CA services continue to contribute to solving global issues in electrotechnology.

White Paper - orchestrating infrastructure for sustainable Smart Cities

Cities rely on millions of devices that are driven by electricity for most of their basic services, including lighting, water, waste management, transportation, security, communication, financial transactions and more. IEC work impacts all of them.

Therefore the IEC has a special role to play in the development of Smart City Standards. Delivering the full value of Standards to accelerate the development of Smart Cities requires broad collaboration between all city stakeholders. This White Paper outlines how to move cities to increased smartness. It was developed with the help of dozens of stakeholders from cities, academia, policy makers, technology providers and standards developers.

White Paper - Internet of Things: Wireless Sensor Networks

The Internet of Things (IoT) is closely coupled with information and communication technologies. As a subset of IoT, Wireless Sensor Networks (WSNs) are regarded as a revolutionary information gathering method that can greatly improve the reliability and efficiency of infrastructure systems. This White Paper uncovers application needs and trends and assesses what Standards are available or need to be developed to unleash the full potential of IoT.

MoU between IEC and OIML

The first IEC President Lord Kelvin once said: "If you can't measure it, you can't improve it". The compatibility of components and systems directly depends on the ability to measure consistently and uniformly. Good Standards together with reliable measurement are the only way to limit barriers to trade. The work of the IEC and OIML are interdependent. The MoU, which was signed in 2011 between the two organizations covers all matters of mutual interest regarding legal metrology related to standardization and conformity assessment and continues to be successfully implemented.