

IEC



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1906-2006

The electric century

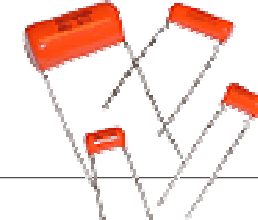
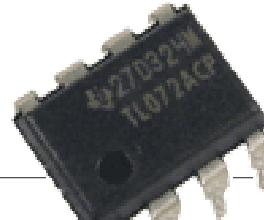
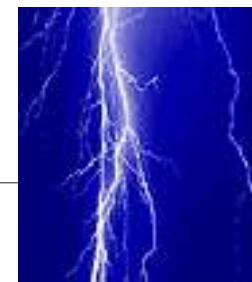
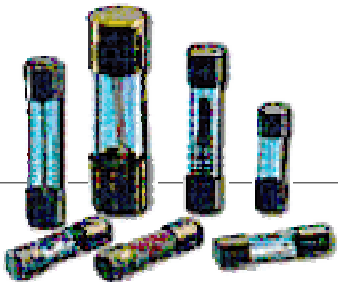
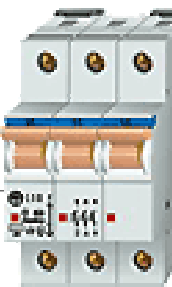
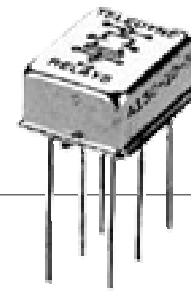
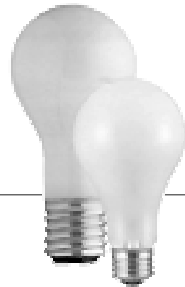
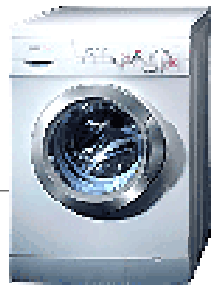
Examples of arrangements between conformity assessment bodies used by regulators: The IEC schemes IECEE and IECEC

WTO Committee on Technical Barriers to Trade
Workshop on the different approaches to conformity assessment
Geneva, 2006-03-16..17

Gabriel Barta
Secretary, IEC Conformity
Assessment Board (CAB)

IEC's mission

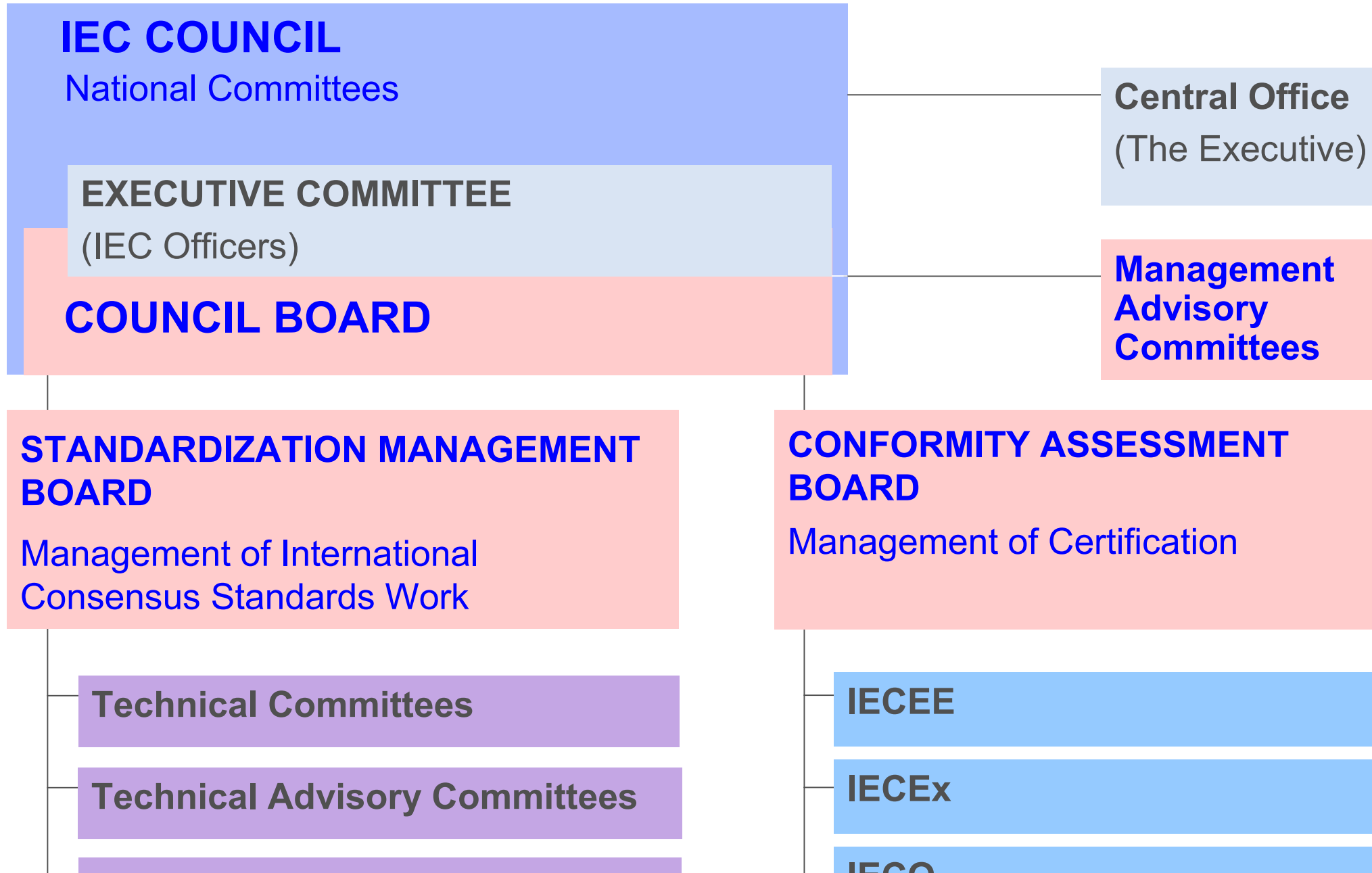
Founded in 1906 to promote international co-operation on all questions of standardization and related matters in the field of electrotechnology



Achievement of the mission

- ▶ To achieve this mission, the IEC works
 - ▶ through its National Committee members,
 - ▶ through cooperative agreements, and
 - ▶ directly
- ▶ The IEC offers both standards development and conformity assessment services
- ▶ It encourages national adoption of IEC International Standards and promotes use by industry and recognition by regulators of the IEC Conformity Assessment Schemes

IEC organization structure



Conformity assessment structure

CONFORMITY ASSESSMENT BOARD

IECEE

System for conformity testing and certification of electrical equipment
(www.iecee.org)

IECEX

Scheme for explosive environments
(www.iecex.com)

IECQ

Quality assessment system for electronic components
(www.iecq.org)

CB Scheme

Mutual recognition of test data between certification bodies

CB FCS

(full certification, including assessing QMS, surveillance and testing of samples)

IEC Scheme overview

- ▶ Acceptance into the Schemes of certification bodies and testing laboratories is by peer assessment
- ▶ Neither IEC nor the Schemes carry out testing or issue certificates
- ▶ Testing is carried out by testing laboratories accepted by the Schemes
- ▶ Certificates are issued by certification body members of the Schemes
- ▶ The Schemes provide an ordered framework in which certification bodies and testing laboratories operate
- ▶ IEC exercises oversight of the operations of the Schemes

Principle: openness

- ▶ Users: schemes are open to any manufacturer anywhere in the world
 - ▶ Don't have to be in an IEC member country to enjoy the benefits of the schemes
- ▶ Members: interested parties, national certification bodies and testing laboratories can belong even though they are located in non-IEC-member countries

The Schemes are

- ▶ Product-based, not system-based, although IECQ has a system component
- ▶ Users of IEC international standards but structured to accommodate national differences
- ▶ Membership organizations
- ▶ Governed by the members
- ▶ Self-financing
- ▶ Managed by IEC staff
- ▶ Overseen by the IEC Conformity Assessment Board

Global conformity assessment through the IEC Schemes

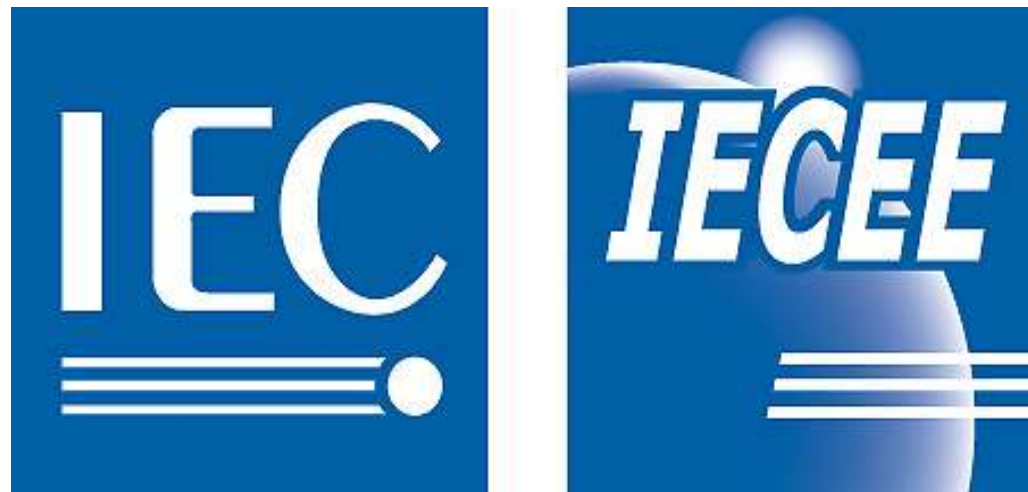
- ▶ Test reports and certificates of conformity accepted by members of a Scheme
- ▶ Conformity assessment reports issued by National Certification Body (NCB) in one country accepted by NCBs in other member countries for purposes of national certification

Resulting in:

- ▶ Reduced testing and certification costs
- ▶ Capacity to eliminate multiple national certifications

Aspects relevant to use by regulator

- ▶ Peer assessment
- ▶ Confidence
- ▶ Mutual acceptance (“recognition”) arrangement
 - ▶ Laboratories
 - ▶ Certification Bodies (CBs)
- ▶ Certificate issued by any member is worth the same
- ▶ If regulator recognizes competence of local CB, s/he can accept any certificate in the Scheme
- ▶ *Direct* recognition / award of regulatory mark is on the increase



World Wide System for Conformity Testing and Certification of Electrical Equipment.

The IECEE CB Scheme

- ▶ 44 participating countries
- ▶ 57 national certification bodies
- ▶ 195 testing laboratories
- ▶ 41 000 + certificates issued in 2005
- ▶ Over 190 000 current certificates
- ▶ More than 7 000 manufacturers currently using the scheme

IECEE CB Scheme

19 product categories ranging from IT and electronic equipment, household appliances, medical equipment, lighting through to EMC and photovoltaics but 60% of activity concentrated in three areas:

- ▶ Household appliances
- ▶ Office & IT equipment
- ▶ Electronics / entertainment

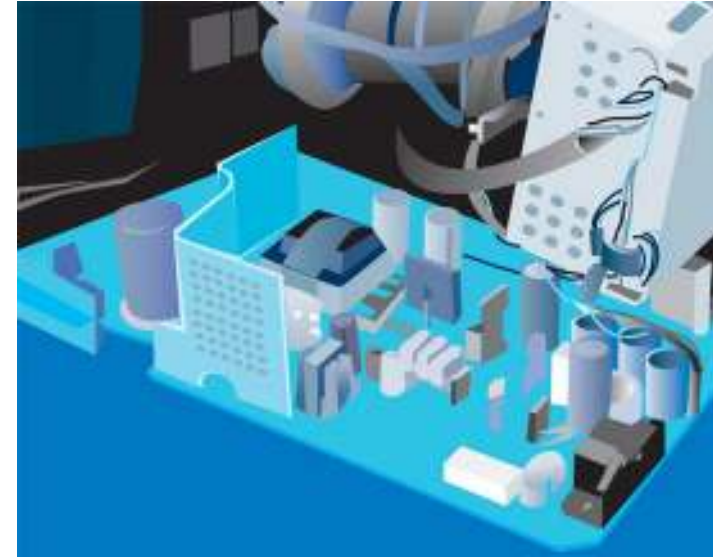


Highlights of the CB Scheme

- ▶ Reciprocal recognition of test results among all participating Certification Bodies, to simplify granting of certification or approval at national levels.
- ▶ CB Test Certificates and associated Test Reports facilitate obtaining secondary certifications.
- ▶ The CB Scheme is the only international recognition scheme for safety of electrical equipment used in homes, offices, workshops and similar locations.
- ▶ Products are tested to IEC standards with provision for supplementary testing to national differences.

How it works 1

- ▶ Manufacturer makes an electrical product and sends it for testing so it can be certified
- ▶ A laboratory tests the product for conformity to IEC standards and issues a test certificate



How it works 2

- ▶ Manufacturer now wishes to sell the product in another country
- ▶ Manufacturer sends the *certificate* to a test lab in the second country



How it works 3

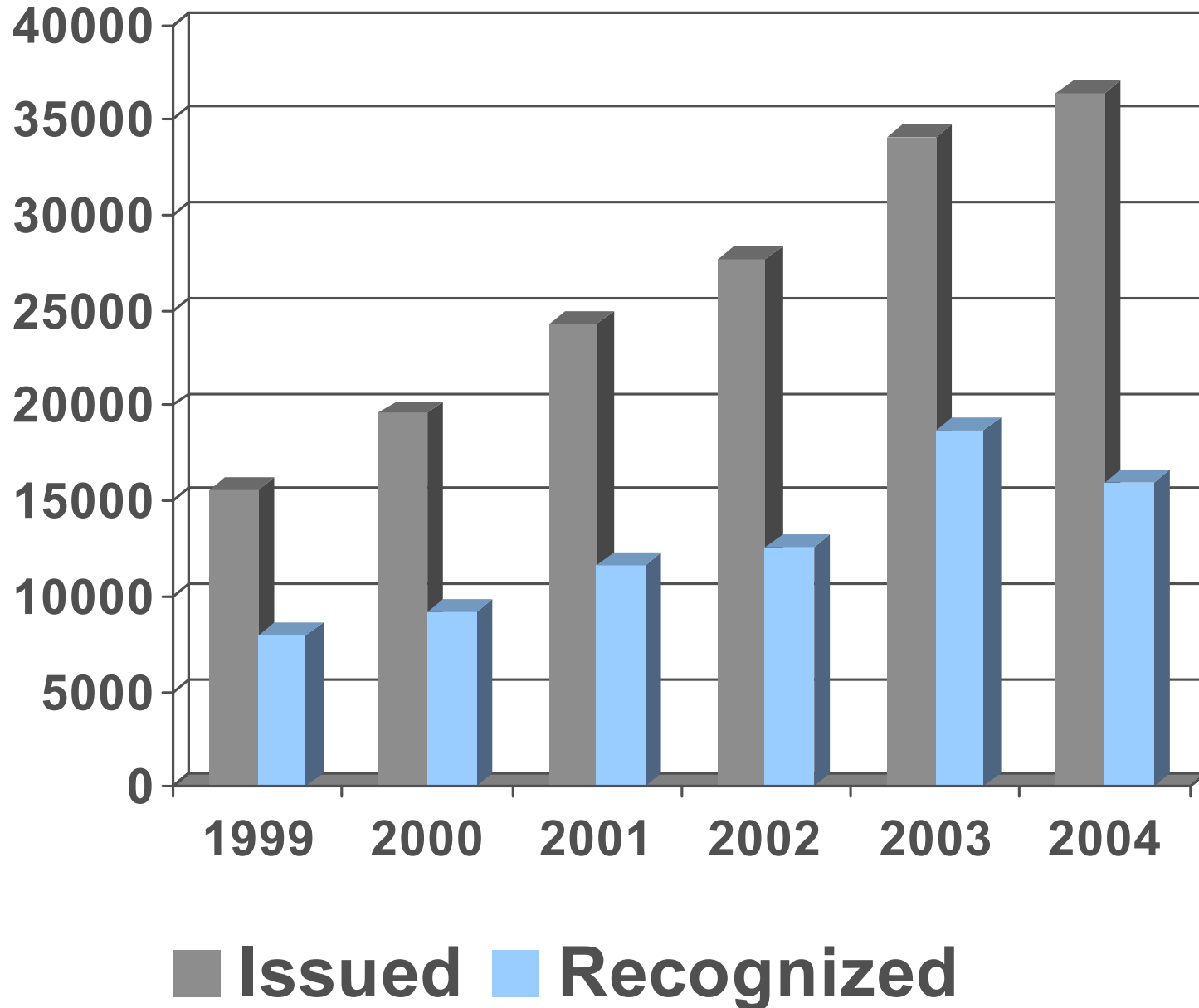
- ▶ Second lab issues its certification mark without having to test the equipment
 - ▶ It recognizes the testing and assessment that has already been done
- ▶ Manufacturer may now affix the national mark of conformity of the second country to the product and may export the product to that country



Advantages of the CB Scheme

- ▶ Meets the needs of manufacturers seeking world wide certification with the most effective and economic procedures within the best certification time frames
- ▶ More rapid testing and certification
- ▶ More universal product recognition
- ▶ Acceleration of product acceptance
- ▶ Direct acceptance by the authorities in many countries
- ▶ Direct acceptance by the retailers and buyers
- ▶ Expanded markets
- ▶ Faster product movement from plants to markets

CB Scheme test certificates



CB Scheme participating countries

Argentina	France	Mexico	South Africa
Australia	Germany	Netherlands	Spain
Austria	Greece	New Zealand	Sweden
Belarus	Hungary	Norway	Switzerland
Belgium	India	Poland	Thailand
Brazil	Ireland	Portugal	Turkey
Canada	Israel	Romania	Ukraine
China	Italy	Russia	United Kingdom
Czech Rep.	Japan	Singapore	
Denmark	Korea Rep. of	Slovakia	United States
Finland	Malaysia	Slovenia	Serbia and Montenegro

Regulatory aspects

- ▶ Safety is a very long-standing regulatory issue
- ▶ IECEE CB Scheme has existed for < 20 years
- ▶ In “newer” economies, **direct** use is more likely
 - ▶ South Africa
 - ▶ ASEAN treaty recognition
- ▶ Given the levels of skill, professionalism & confidence, **direct recognition** would:
 - ▶ Be as reliable as requiring cert. from accredited local CB
 - ▶ Make economic sense, for regulator as well as industry



The IEC Scheme for Certification to Standards for Electrical Equipment for Explosive atmospheres



Scope of the IECEx

- ▶ The IECEx scheme is a means of ensuring the safe use of equipment in areas where there is a **potential** for an explosive concentration of gases, vapours or combustible dusts to be present
- ▶ Products covered by IEC Standards developed by IEC TC (Electrical apparatus for explosive atmospheres):
 - ▶ IEC 60079 Flammable gases and vapours
 - ▶ IEC 61241 Combustible dusts
 - ▶ IEC 61779 Flammable gas detectors
- ▶ Being extended to facilities for maintenance, repair and overhaul of Ex equipment and possibly into approval of installations

Key points of IECEx

- ▶ A single Global Quality Based Product Certification Scheme
- ▶ Quality system requirements, based on ISO 9001: 2000 and IEC 60079-10, which aligns with new European ATEX Directive
- ▶ Currently limited to electrical Ex equipment
- ▶ Caters for manufacturing in different countries
- ▶ Many EU ATEX Notified Bodies are also ExCBs
- ▶ All ExCBs are subjected to the same IECEx Assessment and Surveillance procedures using peer assessment
- ▶ Work also underway to introduce an IECEx Mark
- ▶ Expanding to cover Ex-related services, e.g. repair and overhaul
- ▶ Participation open to non-IEC countries



Australia



Canada



China



Czech Republic



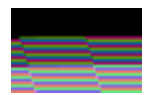
Denmark



Finland



France



Germany



Hungary



Italy



Korea, Republic of



Netherlands



Norway



New Zealand



Romania



Russian Federation



Singapore



Slovenia



South Africa



Sweden



Switzerland



United Kingdom



United States of America



Serbia & Montenegro

Regulatory aspects

- ▶ Very highly regulated sector, everywhere
- ▶ IECEx is a Type 5 (“full”) CA system
 - ▶ Includes systems, competence, surveillance
 - ▶ “Credit” given for quality system certification
- ▶ Thus regulators can have confidence
- ▶ Clear tendency to **direct recognition**
 - ▶ Australia: mine safety

More information

- ▶ IEC www.iec.ch
- ▶ IECEE www.iecee.org
- ▶ IECEx www.iecex.com

**Thank you for your attention.
Any questions?**