Want to create global value? Talk to the BizL!

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Standards Development (SD) → International Standards → Since 1906

Conformity Assessment (CA) → Global CA Systems → Since 1974
Standards and Conformity Assessment are like two sides of a coin…

…neither side has value without the other side

Standards + Conformity Assessment = Value

Confidence = Value

Conformity Assessment (CA)
Checking that a product or service conforms to specified requirements

First party CA
- Carried out by manufacturer, supplier
- SDoC, eg CE marking

Second party CA
- Carried out by customer
  eg: checking in coming goods/materials

Third party CA
- Carried out by independent organization
- Independent from the supplier & end-user
- Can be test-reports, audit-reports, type-certification, full certification, etc
IEC CA Systems

Global conformity assessment Systems

- IECEE
- IECEx
- IECQ
- IECRE

→ Requested by the market
→ Paid for by the market
→ Creating value for the market

IECEE CA Schemes

CB-Scheme

new Cybersecurity Scheme
IEC CA Systems

MARKET DRIVERS

IECEE

Manufacturer’s
- Access to foreign markets
- Risk management
- Supplier qualification

Governments
- Economic development
- Protection: people, environment
- Protection: critical infrastructure

Asset owners
- Protection: business

IECEx – explosive atmospheres

- Equipment Scheme ← unit certification
- Service Scheme ← process certification
- Certified Persons Scheme ← people certification
- Mark Licensing Scheme ← licencing
IECEx – explosive atmospheres

world’s best practice

In 2011, United Nations recommended IECEx as WORLD’S BEST PRACTICE for conformity assessment for Ex environments.

IEC CA Systems

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- Protection: people, environment

IECEE  IECEx

CB scheme  Cybersecurity
IECQ – Quality

- HSPM – Hazardous Substances → process
- ECMP for avionics ← supply chain
- Counterfeit Avoidance Process Scheme
- LED lighting Scheme

IEC CA Systems

MARKET DRIVERS

- Manufacturer’s
  - Access to foreign markets
  - Risk management
  - Supplier qualification

- Governments
  - Economic development
  - Protection: people, environment
  - Protection: critical infrastructure
  - Protection: economy

- Asset owners
  - Protection: business
  - Protection: people, environment
IECRE – Renewable Energy

Wind Energy
Marine Energy
Solar PV Energy

Market drivers

• Financial risk management
  o Apply world’s best practices
  o IEC global CA are current world’s best practice
### IEC CA Systems

**MARKET DRIVERS**

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<th><strong>IECEE</strong></th>
<th><strong>IECEX</strong></th>
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<td>Investors &amp; Insurers</td>
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**MARKET DRIVERS**

- Respond to market need
- Global worldwide benefits
- Requested by market
- Paid for by market
- Create value for market

**What value to your market?**
IEC CA Systems

How is the value created?

- Professional CA bodies (CABs)
- CABs anywhere in the world
- CABs must qualified to participate
- CABs help write the rules
- CABs must follow the rules
- CABs are regularly peer assessed to check that rules are followed

How IEC CA Systems work

Global CA services
- Membership organization
- Professional CA bodies (CABs)
- CABs anywhere in the world
- CABs must qualified to participate
- CABs help write the rules
- CABs must follow the rules
- CABs are regularly peer assessed to check that rules are followed
How IEC CA Systems work

Global CA services
Fundamental Value Creation
• Single scheme owner
• Common interpretation of standards
• Common rules & methodologies
• Documented
• Peer assessment → checking consistent application

→ Consistent comparable CA results → worldwide

Accreditation - its value

• Accreditation is national
• National recognition of CAB competency
• National recognition of CAB results
• Confidence in CA results
• Confidence in products & services
• Ensuring safety & performance
• Risk mitigation
• Sharing liability
Accreditation - how it works

Country A
National Authority (Government)

NAB

CAB (CB/TL)
Testing & certification
CA result

CAB (CB/TL)
Testing & certification
CA result

CA results recognized because of accreditation

Country B
National Authority (Government)

NAB

CAB (CB/TL)
Testing & certification
CA result

CAB (CB/TL)
Testing & certification
CA result

CA results recognized because of accreditation
Accreditation - how it works

Country A or B

- CAB (CB/TL)
  - Scope (i)
  - Scope (ii)
  - Scope (iii)
  - Scope (iv)

Full scope

Country A

- National Authority (Government)
  - Accredited
  - CA results recognized
  - CA results not recognized

Accreditation - its limitations

In the real world standards are not perfect
→ Consensus based → sometimes needs interpretation

Eg: Inspection replies on “professional judgement”

In the real world there are

- Competent CABs → too strong
- Competent CABs → too weak
- Competent CABs → correct
- Incompetent CABs
- Fraudulent CABs

VARIATION

ACCREDITED
Accreditation - its limitations

- Accreditation is national
- Applied to CABs as individuals
- Does not apply to CABs in groups
- Provides little assistance in achieving consistent results from multiple CABs

Accreditation - its limitations

- Accreditation is national
- Accreditation processes and audits are very different from one country to another
- CAB competency can vary significantly between countries
- This variance reduces confidence in results coming from CABs in other countries
Accreditation - international level

- Accreditation is national
- ILAC/IAF long term goals
  → global harmonized accreditation processes & audits
  → consistent & comparable accreditation world wide
  → Higher level of confidence in CA results
  → Accredited CA results recognized from country to country

Added value of IEC CA Systems

In the real world standards are not perfect
→ Consensus based → sometimes needs interpretation
   Eg: Inspection replies on “professional judgement”

In the real world there are
- Competent CABs → too strong
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- Competent CABs → correct
- Incompetent CABs
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IEC CA System
common interpretation
common rules
common methodologies
peer assessment

→ Consistent comparable CA results, worldwide

World’s Best Practice
Accreditation & Peer Assessment

Musicians
Qualified to play an instrument
- Have an instrument?
- Can read music?
- Can play the music?

Qualified to play in an orchestra
- Have an instrument?
- Can read & play music?
- Can play the agreed music?
- Can play with other musicians?
- Can play in the orchestra’s style?
- Can follow the conductor?

ILAC/IAF Accreditation & IEC Peer Assessment

ILAC/IAF goal to harmonize the international accreditation process to qualify CAB competency (peer assessment between NABs)

IEC CA System peer assessment goal to qualify CAB competency and application of harmonized testing & certification processes to ensure consistent CA results
CA results recognized because of accreditation

Country B
National Authority (Government)
CAB (CB/TL)
Testing & certification
CA result
NAB

Country A
National Authority (Government)
CAB (CB/TL)
Testing & certification
CA result
NAB

ILAC/IAF MRA & IEC MLA

ILAC/IAF MRA requires the National Authority to directly recognize CA results from any accredited CAB, anywhere in the world.

IEC CA Systems MLA requires participating CABs to recognize CA results from any other participating CAB, anywhere in the world, and since the recognizing CAB is accredited, the National Authority must recognize the CAB’s decision.

Both ILAC/IAF MRA & IEC MLA applies to CA results

Accreditation is important for the IEC CA Systems

- Mutual recognition only has value if it provides access to markets
- The results from accredited bodies are recognized in their own country
- Market access is given by accredited bodies
- IEC mutual recognition has most value when recognized by an accredited body
Access to foreign markets
Testing & certification by commercial CABs
CA results from anywhere recognised everywhere
IEC certificate → passport to the world

IEC CA Systems summary

Certification schemes for
• products
• assemblies
• services
• manufacturing processes
• quality management processes
• supply chain
• personal competency

Value Creation
→ Consistent comparable CA results → worldwide

What value to your market?
**BizL** Future-business (Biz) master watch-List

- A forward-looking radar
- Identify & track
- Understand market sector needs
- Work with market sectors
- Incubate services
- Launch services

→ Create Value

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**BizL** Future-business (Biz) master watch-List

IEC website
CAB webpage
Standing documents
BizL

FSP_ORG_ID,FSP_LANG_ID:3250,25

- Currently 30 potential areas
  - Expanding cybersecurity services
  - Physical security products
  - LDVC applications
  - Wearables
  - Products with radio functions
  - IoT devices
  and so on
BizL  Future-business (Biz) master watch-List

Global benefits

- World market access
- Worldwide consistent product quality
- Recognized world quality services
- Protection of infrastructure
- Approved supplier status
- Legitimizing Gov. subsidises
- Financial risk management
- Cybersecurity
- Supply-chain
- And much more

Contact us: info@iec.ch
Enquire about the IEC CAB BizL

Thank you