



IECEx PUBLICATION

**IEC System for Certification to Standards relating to Equipment for use
in Explosive Atmospheres**

**IECEx System Business Plan 2013-2016
Edition 2.0**





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Introduction

International standardization and common conformity assessment are important to trade and commerce. In the area of equipment for use in potentially explosive atmospheres, world wide standardization of technical requirements is achieved through IEC standards, in particular the 60079 and 80079 series of standards. However, the application and interpretation of these Standards has a large bearing on whether or not true Standardization is achieved in the practical sense.

In many cases, Conformity assessment against the IEC 60079 series of standards (or equivalent national standards) is currently done on a country by country basis with a significant move towards the use of the IEC Ex system. Standardization, Conformity assessment and associated certification gives users of such equipment and installations a high degree of confidence that the risks of an explosion from an electrical ignition source are appropriately managed.

Countries that participate in the IEC Ex System agree on the need for a forum to:

1. Provide a high degree of confidence in the safety aspects of electrical equipment and installations in potentially explosive atmospheres
2. Improve the quality and capacity of conformity assessment and associated certification in Global economies
3. Support a life-cycle approach that provides fit for purpose equipment and installations and competency for people to manage risks in potentially explosive atmospheres.
4. Support free trade Globally while preserving safety
5. Support improvement of economic efficiency and development through the promotion of standardization and certification activities
6. Interact with other bodies that represent elements of the standardization technical infrastructure, also with industry, consumers and government, IEC Ex System does strive to ensure that individuals who have the ability/authority to get things done in their country are the ones participating in the IEC Ex System

1. Strategic Questions

While business planning is an integral part of the day to day management of the IECEX System, as reflected by the various committee and operational documents of the System, it is important to keep an eye on the future and the following questions in mind:

- What is the industry we are operating in, and what are the needs of the stakeholders operating in this market?
- Where are we now, and what products/services we provide to meet market needs?
- What is our vision and where do we aim to be 3 years down the road?
- What strategic and operational constraints are imposed on us?
- What new business opportunities we should pursue to meet future market needs?
- What strategies we need to put in place that will enable us to reach our vision?
- What action plans we need to implement in support of the strategies?
- What funding will be required to successfully undertake all the activities necessary to fulfill our goals?
- What resources and structure are required to support the vision and strategies?
- What action/process is needed to assist in promoting the various services offered under the IECEX System and to make these services a preferred choice by the industries in which IECEX operates?

2. Purpose of the Strategic Business Plan (SBP)

This Strategic Business Plan (SBP) has been developed for IECEX System as a response to these strategic questions and will serve to:

- Provide a consistent and structured approach to strategic business planning
- Provide a single source document to guide business planning
- Steer IECEX forward in meeting the needs and challenges of the International Ex industry it seeks to serve
- Provide a long term strategic focus
- Provide a funding framework for IECEX activities, including its Secretariat
- Be used as a reference document by the IECEX Secretariat, the IECEX Management Committee and the IECEX Executive for providing information to major global trade organizations (WTO, NAFTA, UN etc) and national governments on IECEX system.
- Address issues and matters requested by the IEC Conformity Assessment Board.

It is important to note that the Business Plan must be a “living document”. As such, it will be updated on yearly basis, and will be driven by the activities within the IECEX System.

3. Overview of Industry Sector

3.1. Ex Area

Places where flammable liquids, vapors, gases or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion are referred to as Ex areas. They are also known by different names such as “Hazardous Locations”, “Hazardous Areas” “Explosive Atmospheres”, and the like.

Equipment used in such areas is termed “Ex equipment” and include:

- Automotive re-fuelling stations or petrol stations
- Oil refineries, rigs and processing plants
- Chemical processing plants
- Printing industries, paper and textiles
- Hospital operating theatres
- Aircraft re-fuelling and hangars
- Surface coating industries
- Underground coalmines
- Sewerage treatment plants
- Gas pipelines and distribution centers
- Grain handling and storage
- Woodworking areas
- Sugar refineries
- Metal surface grinding, especially aluminum dusts and particles

3.2. IECEX System Stakeholders

IECEX stakeholders can be categorized into two groups:

- a) A “Participants Group” which includes:
 - Member Bodies of the IEC Ex System.
 - Certification Bodies
 - Testing Laboratories
 - Accreditation Bodies
 - Manufacturers

- b) A “Users” Group consisting of all those that have the need to correctly select equipment and services, such as:
- End Users
 - Consulting Engineers
 - Regulators
 - Inspectors
 - Repairers
 - Other Government agencies (trade, technical infrastructure, foreign and domestic policy)
 - Other international standards organizations

3.3. Standards & Conformity Assessment

Standards, certification requirements, and conformity assessment related to Ex equipment have been in existence for many decades. The basic principles of explosion protection are codified in the International Technical Commission (IEC) 60079 series standards drawn up by IEC Technical Committee (TC) 31, and cover specific requirements for all types of Ex equipment and systems.

These international standards have been embraced by all sectors of the Ex industry and are used by manufacturers and end users of Ex equipment to ensure safety in their products and processes. They are also adopted in various countries at the national and regional level, either in whole (without differences), or in part (with identified differences).

Most manufacturers, suppliers and end-users trade on the global scene and have to meet the strict requirements put in place by national regulations and legislations. As a prerequisite for safety in a sector where hazards are substantial and may involve severe damages and casualties, most national regulations require that conformity assessment be carried out by independent, third-party certification bodies. This creates a problem for manufacturers, suppliers and end-users that trade internationally in that equipment traded globally may have to undergo repeated testing and conformity assessment for each of the national markets to which it is exported, resulting in increased cost of the equipment without a corresponding increase in safety for workers and end users.

While strict regulatory requirements governing Ex Equipment or Services exist in many countries, there are also many countries that lack a technical infrastructure in the Ex area, and need to rely on Systems developed elsewhere.

For this and other reasons, an internationally recognized certification system is very important and beneficial in order to reduce unnecessary costs and delays due to duplication of testing and assessment, while preserving an acceptable level of safety, as reflected by International Standards, such as those developed by IEC TC31.

4. The IECEx System – a Global Solution

To address this problem, and in response to the market needs identified above, the IEC established IECEx, the IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmosphere.

Since its inception in 1996, IECEx has grown from less than a dozen member countries to now being a truly global system comprising more than 50 approved certification bodies (Ex CBs) in 30 countries, and has emerged to become an essential compliance assessment tool for the global Ex industry.

While the initial market demand was focused on Ex equipment, the Ex stakeholders worldwide realized the need to expand the scope of IECEx beyond equipment, and into the service sector. As a result,

currently the IECEx System has in place a number of Schemes that provide the global Ex community with the following Conformity Assessment services:

- Equipment: IECEx Certified Equipment Scheme.
- Services: The IECEx Certified Service Facility Scheme.
- Mark: IECEx Conformity Mark License System.
- Personnel Competence: IECEx Certified Persons Scheme (CoPC)

It must be recognized that the annual and sustained growth of the IECEx System is due mainly to the large scale of stakeholders' involvement in the day to day management of IECEx.

5. IECEx System Purpose

The purpose of the IECEx System is to provide a framework to facilitate international trade in equipment and services related to explosive atmospheres, while maintaining the required level of safety and system integrity. The aim is to:

- Reduce testing and certification costs to manufacturers.
- Reduce time to market.
- Achieve international confidence in the product assessment process.

6. Vision

In support of the stated purpose, and operating within the mandate stipulated by IEC CAB, the IECEx vision is:

“To be recognized as the global centre of excellence in providing conformity assessment solutions to the needs of the Ex industry worldwide”

7. Values

The values by which IECEx conducts its business include:

- Treat each other with respect, mindful of the diversity of background, culture and language of the various IECEx stakeholders
- Freely share knowledge and solutions to identified problems
- Act in an ethical and trustworthy manner
- Promote cooperation and collaboration amongst members
- Conduct ourselves and our affairs in a business-like manner to deliver efficient and expert services
- Strive for excellence, innovations, and high quality

8. Risks

IECEX identifies the following key risks:

- a) Not being relevant to Industry needs
- b) Not responding to industry and stakeholders needs in a timely fashion
- c) IECEx Certification Bodies and Test Laboratories operating outside the IECEx rules and Operational Documents
- d) Not maintaining a Dedicated Technical Secretariat
- e) Potential misuse of Marks and Certificates and Counterfeit of Products

- f) Loss of credibility of the IECEx System which might occur through various actions of its direct members and participants
- g) Certification granted by ExCBs for equipment that is not in full compliance with the relevant standards
- h) Acceptance of excessive “National Differences” that may undermine progress towards full harmonization of national standards with IEC standards
- i) Impact of possible global financial crises

9. Operating Principles

In the operation of its business IECEx shall be guided by the following principles:

Transparency:

All IECEx activities shall be carried out in an open and transparent manner.

Consensus:

IECEX shall seek solutions and make decisions based on consensus among its members.

Open Competition:

IECEX shall not hinder fair and open competition among Member ExCBs, ExTLs, and among manufacturers and end users. All participating members will abide by “Antitrust Laws” when discussing common issues within IECEx System fora.

CAB Mandate:

All IECEx System activities shall be carried out within the policy of, and in accordance with the direction given by IEC CAB.

Rules of Procedure:

All IECEx activities and the various IECEx Schemes shall be Conducted and operated in accordance with the applicable published IECEx Rules and operating procedures.

Technical Secretariat:

In accordance with the rules of procedures of the IECEx System, IECEx shall operate with a centralized Technical Secretariat with sufficient resources to ensure a timely response to:

- Work assigned to it by the IECEx Management;
- Inquiries and assistance requested from ExCBs
- Inquiries and assistance requested from industry and stakeholders
- Maintenance and enhancement of IECEx On-Line Certificate System
- Acting proactively in the promotion and representation of IECEx

Reporting by Secretariat:

The IECEx Secretariat shall provide IECEx Members with a “Annual Report Card” that provides, as a minimum, the following:

- Statistics, eg Membership, Certificates, Reports, etc.
- Operational related activity.
- Promotional/marketing activity.
- Financial
- Others as requested by the ExMC

Financials:

Operate on a cost recovery, not-for-profit basis with budgets approved by the ExMC and IEC CAB.

10. Objectives and Strategies

To fulfill its purpose and vision, and in accordance with the operating principles, IECEx has established the following strategies:

10.1. Objective 1: Provide and maintain International IECEx certification Schemes that respond, and provide solutions to market needs.

In support of this objective, the following strategies will be pursued:

- a) Identify future business opportunities using input from all stakeholders.
- b) Use IEC Ex standards (and related ISO standards) as a starting point to assess the potential of offering a conformity assessment service.
- c) Conduct proper market surveys prior to undertaking to develop a certification Scheme.
- d) Identify and establish cooperative arrangements or a formal dialogue with other international and regional organisations that complement the IECEx services.
Examples are: United Nations and the UNECE, WTO, ISO, ITU, ILAC, IAF, and member accreditation bodies.
- e) Establish a formal process for the exchange of information and knowledge between national conformity assessment and certification bodies.

10.2. Objective 2: Ensure and maintain international credibility of, and confidence in all IECEx products and services among all stakeholders.

In support of this objective, the following strategies will be implemented:

- a) All certification Schemes will be designed to meet and comply with the following ISO/IEC Standards/Guides, as applicable: 17021, 17025, 17024, 17065
- b) Establish a formal process for the qualification of assessors used in the IECEx System to conduct peer assessment, and provide assessors with initial and on-going training.
- c) Establish a formal process to ensure that IECEx Certificates are issued under a regime of initial and on-going qualification, monitoring of IECEx providers eg. ExCBs and ExTLs and monitoring of the IECEx System and issue of Certificates and Reports.
- d) Work with member certification bodies to eliminate hurdles and obstacles that hinder the mutual acceptance of IECEx test reports and certificates.
- e) Work closely with regulatory bodies in member countries towards achieving recognition of IECEx Certificates at the national level.
- f) Secure recognition of the IECEx System and associated Schemes/Certificates in non-member countries.

10.3. Objective 3: Enable Ex stakeholders user-friendly access to specific IECEx documents.

In support of this objective the following strategies will be pursued:

- a) Use Information Technology systems to their fullest extent including enhanced use of the Internet.
- b) All Certificates used by the various IECEx Schemes will be issued as “Electronic Certificates” and will be available live on the IECEx Website for reviewing and printing.
- c) Establish one international data base listing with free and open access.
- d) Continually upgrade and enhance IECEx website features.
- e) Use of “Smart Phones” to enable access to the IECEx website.

10.4. Objective 4: Ensure consistency in the interpretation and application of IECEx System requirements by all participating Certification Bodies and Test Laboratories.

In support of this objective the following strategies will be pursued:

- a) Operate all IECEx Certification activities on the basis of one single set of rules, operational procedures, and standards forms that are to be applied by all IECEx certification and Test Laboratories.
- b) Develop and publish guidance material for identified technical issues of interest to Certification Bodies and Test Laboratories.
- c) Use qualified assessors and provide them with appropriate initial and on-going training.

- d) Implement and maintain an effective Proficiency Testing Program specifically designed for Ex safety protection methods, in which all ExTLs are required to participate.
- e) Encourage the participation of ExCBs and ExTLs in the assessment process through the provision of assessors.
- f) Ensure that representatives from ExTLs attend ExTAG meetings.
- g) Ensure participation by member ExCBs in ExPCC and ExMarkCo meetings.

10.5. Objective 5: Promote and market IECEX System products and services.

In support of this objective the following strategies will be pursued:

- a) The Secretariat, with input from IECEX members, shall identify and maintain a list of all events (conferences, shows, meetings, etc.) that take place on regular (annual or bi-annual) basis at which IECEX is to be promoted. This information shall be made publicly available in the Meeting Schedule on the IECEX website. Current examples are:
 - Hazardex Conference
 - PCIC Conference - North America
 - PCIC Conference - Europe
 - PCIC Conference - Middle East
 - ExPIC Conference - Asia
- b) The Secretariat, with input from IECEX members, shall research and identify “special” events that take place on ad hoc basis at which IECEX is to be promoted. Past examples are:
 - Dubai 2012 conference
 - Regulatory/Industry meetings in Vietnam, Indonesia.
 - Industry dialogue-Singapore
- c) The events identified in (a) and (b) above shall be discussed at the annual meeting of the IECEX Management Committee, and recommendations shall be made as to which of these events should be attended and by whom, taking into account the costs and availability of resources.
- d) The Secretariat, with input from IECEX members, shall identify and maintain a list of national, regional and international publications and magazines in which articles on IECEX activities could be published. Current examples are:
 - HazardEx Publication
 - International Association of Electrical Inspectors (IAEI) Magazine– North America
 - IEC e-Tech Magazine
- e) IECEX Management Committee shall determine at its annual meeting which of the above identified publications are to be targeted, taking into account the costs and availability of resources.
- f) The Secretariat, with input from IECEX members, shall research and assess the feasibility of IECEX participating in specific Ex industry shows with a stand-alone booth, or co-exhibiting with local IECEX members.
- g) Promote the IECEX System and associated Schemes/Certificates in non-member countries.
- h) Outreach to emerging economies and non-IECEX countries to join the IECEX System and/or accept IECEX certificates and Schemes.
- i) Develop specific promotional/marketing material for each of the services provided under the IECEX System.
- j) The Secretariat shall produce wall charts outlining IECEX activities and Schemes.

10.6. Objective 6: Cooperate with IEC Committee TC31 - Equipment for Explosive Atmospheres:

In support of this objective the following strategies will be pursued:

- a) Continue to include the Chairman of TC31 as a member of IECEX ExMC.
- b) Continue to include the Chairman of TC31 and its subcommittees as ex-officio members of ExTAG.
- c) Use the TC31 series of standards as the preferred series of standards for use within the IECEX System.
- d) Provide updates to TC31 plenary and Chairman's Advisory Group meetings when invited.
- e) Cooperate with TC31 on events of mutual interest, such as seminars.
- f) Prepare for the use of future TC31 non-electrical standards in the IECEX System.

10.7. Objective 7: Jointly with UNECE and TC31 market the UNECE Common regulatory Objectives (CROs) incorporating adoption of TC 31 standards

In support of this objective the following strategies will be pursued:

- a) Foster close ties with UNECE.
- b) Target regions (such as the Customs Union of Belarus, Kazakhstan and Russia) where it is appropriate to hold seminars/conferences.
- c) Target appropriate people to attend the above seminars/conferences.
- d) Foster ongoing relations with countries with an identified opportunity to utilize TC 31 standards, IECEX Schemes and the CROs.

11. Budget

The following constraints, conditions and assumptions shall be taken into consideration during the budgeting process:

- a) The official currency of the IECEX is the Swiss Franc, in line with IEC maintaining its official seat in Switzerland.
- b) The IEC Statutes and IECEX Basic Rules require that IECEX maintains a self funding model.
- c) IECEX should maintain a General Reserve, as a minimum the equivalent of 2 years operating costs, in order to:
 - Maintain the structure of the IECEX for a limited period, in the event of any major world crisis that may cause a temporary impact on the IECEX System
 - Provide a fund for any unforeseen expenditure, eg. legal costs associated with misuse of the IECEX Mark or logo, etcetra. It is NOT intended that it would ALL be used to support Secretariat operations costs.(eg refer ExMC/623/CD)
- d) The above target for General Reserve is to be achieved by 2014/15, before which time the business planning process will have determine how the budget process will be changed to take account of the altered circumstance.
- e) While the IEC Ex Equipment Scheme may be considered a mature business, the other Schemes are relatively new and are still in the developmental/growth phase.
- f) Annual dues from IECEX members have not been increased for the past 12 years, and no change is anticipated.

Note: A slight decrease in Member Bodies fees was agreed during the 2008 ExMC Paris meeting.
- g) The Secretariat costs are to be maintained within the constraints of the approved annual budget, taking into account workload, current income, and sustained growth.
- h) Costs related to existing and new/additional promotional activities

12. Key Performance Indicators

Key performance indicators shall track the deliverables of the System with specific targets and identified actions, and include the following:

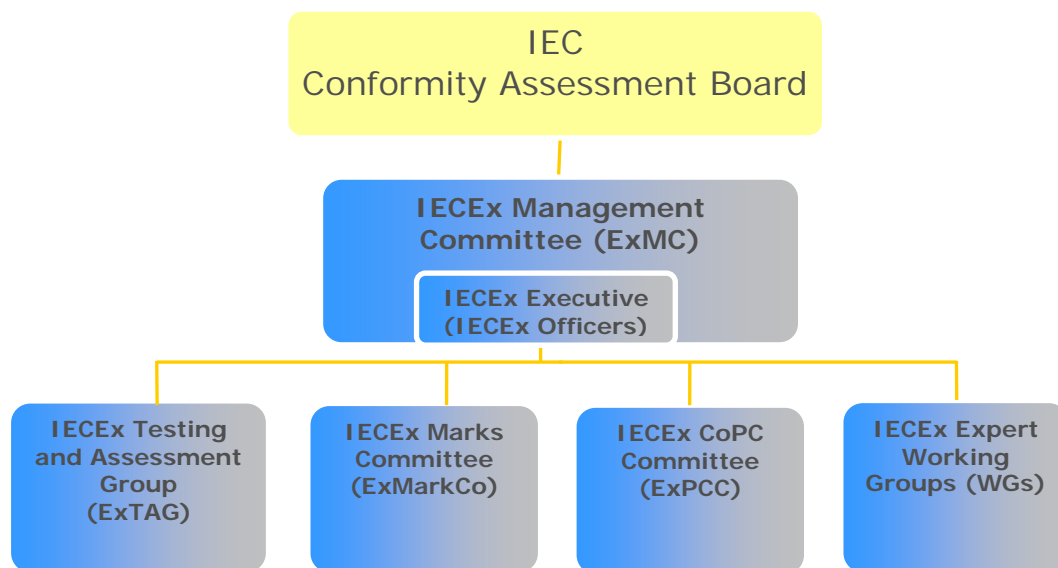
- Implementation of IECEX strategies and objectives
- Implementation of action items generated during the annual Management Committee meetings
- Statistics: Membership, number of Certificates, number of ExTRs
- General results of the Proficiency Testing program
- Financial targets

Additional key performance indicators may be required to assess the performance of the IECEX System...

- as seen by its Customers
- as measured by the effectiveness of its Processes
- as seen by the People who work with the IEC Ex System
- as seen by the effectiveness and efficiency of resources used by the IEC Ex System.

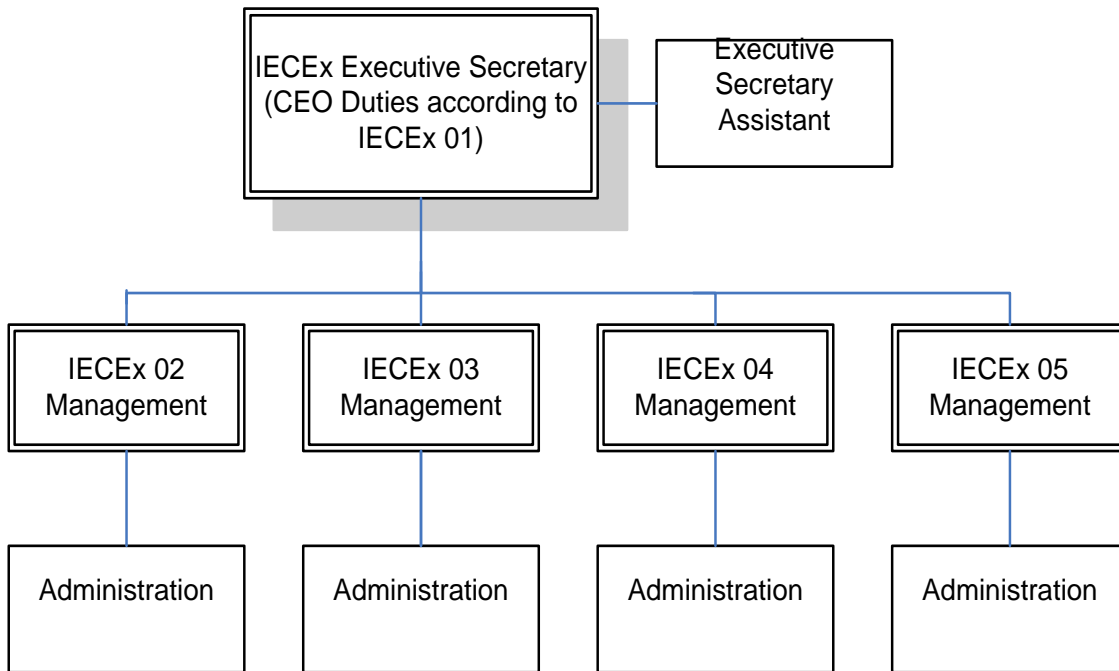
13. Organization & Structure

The IECEX shall be operated by a Management Committee reporting to CAB, in accordance with the structure shown below.



The core duties of the IECEX Executive Secretary, are defined in the IECEX Basic Rules, publication IECEX 01, as approved by the IECEX Conformity Assessment Board.

Resources of the IECEx Secretariat cover the following functions:



Functions of the Secretariat, detailed above, are covered by the appointed Executive Secretary supported by a combination of full time staff and casual/part time staff.

The IECEx System maintains a dedicated Internet website that provides the following core functions:

- a) Publicly accessible information concerning the rules and operations of the IECEx Schemes, along with updated listings of approved IECEx Certification Bodies.
- b) A Members only site as the centralised means for circulation of committee documents and records.
- c) Through the use of IT system enhance the functionality of an on-line current IECEx Bulletin.
- d) An electronic system "On-Line Certification system that provides:
 - The registration of issued Test Reports and Assessment/audit reports.
 - The issuing of Electronic master IECEx certificates and Licenses.
 - Search, download and print capabilities