



## **ATEX and IECEx compared and contrasted – Which is the “Bees Knees”?**

The ATEX Directive 94/9/EC is a mandatory legal device relying on many different forms of Conformity Assessment. IECEx is a true Type 5 Certification Scheme. They each have their role, but which gives the greater confidence in the product?

Although both schemes relate to confirming the perceived safety of products for use in hazardous areas, their origins and the forces driving the way they operate are entirely different.

ATEX is about removing barriers to trade within Europe. Its purpose is to set a level of perceived safety which is to be regarded as “good enough” to ensure that national authorities would have no reason to prevent importation or use. It is not intended to help European manufacturers to export to the rest of the world (although some fortunate side effects may assist slightly). In pursuit of the removal of trade barriers, ATEX 94/9/EC diluted some of the requirements in the previous ATEX directives (76/117/EEC and 82/130/EEC). The special hexagon symbol had been related to certification but now it can be applied by the manufacturer solely on his own authority. ATEX 94/9/EC is also designed to work directly with the ATEX “Use” Directive 1999/92/EC which does relate to safety and provides the minimum design and operational criteria for plants that might be endangered by explosive substances. It is wrong to separate the two directives and treat them individually.

IECEx is about giving confidence that a product or service meets clearly defined transparent criteria. By providing that transparency with a high level of confidence, it is intended that it will eventually provide a worldwide recognised certificate in which the whole world has confidence. The driving force is safety, with the trade benefits following from the confidence.

The scope of the IECEx Scheme is currently defined by the standards issued by IEC Standards Committee TC 31 and is therefore limited to electrical equipment, whereas the scope of ATEX is very broad, also including non-electrical equipment and protective systems. However, that broadness is sometimes unexpectedly curtailed by dictate of the European Commission’s ATEX Standing Committee, where they are insisting that some types of equipment are out of scope, even when the manufacturers of that equipment want it to be in scope. Clearly comparing the schemes is not relevant for equipment out of the scope of one of them, but note that there is an intention to widen the scope of the IECEx Scheme to include non-electrical equipment and protective systems once the standards are published at international level, probably from 2012 onwards.

### **Use of standards**

ATEX compliance is fundamentally not about compliance with standards but about compliance with the Essential Health and Safety Requirements (EHSRs) given in the directive. Because the EHSRs are fairly general and not themselves subject to routine amendment or revision, the directive relies on standards (normally harmonised standards listed in the OJEC) to define the “state of the art” in respect of the EHSRs. However, since compliance with the standards is not mandatory, it is impossible to tell from publicly available ATEX documentation the exact provisions that have been applied to a particular equipment.

Standards are, however, very relevant in determining the “State of the Art”. It is an absolute requirement of the directive that changes in technological knowledge should be adopted as soon as practicable and

the best guide to the commonly accepted state of such knowledge is contained in the harmonised standards. It is even practicable (and sometimes desirable) to be ahead of the harmonisation process, though this should only be done in conjunction with a Notified Body that is active in the standards making process and is aware of all the implications. Because of delays in the harmonisation process, many certificates issued in 2007, 2008 and 2009 refer to standards not yet harmonised.

### **Is ATEX Certification ?**

**Definitely not.** The single public domain document for ATEX is the manufacturer's Declaration of Conformity (DoC). This is the only document that the manufacturer is obliged to show to his customer and the manufacturer has sole responsibility for it. He produces it entirely independently of any other documentation that he might have, although it may refer to other documentation. In particular, it is the manufacturer who has responsibility for bringing together the modules for type examination and for production control, and ensuring that they are compatible, or he may be totally responsible for every aspect under the module "Internal Control of Production".

By definition, certification is the action of a third party (see ISO/IEC Guide 2). Clearly the issuing of the DoC is the action of the first party and therefore falls outside the definition of certification. However, one or more of the process leading to the issuing of the DoC may involve a third party (the Notified Body) and each part of the process may be referred to, colloquially, as "certification".

### **Is IECEx Certification ?**

**Definitely yes.** In contrast to ATEX, IECEx has been designed from the outset as an ISO/IEC Type 5 Certification Scheme, relying on a single third party (The IECEx Certification Body) to bring together all aspects of design evaluation and production control before issuing a publicly available certificate. Thus the public domain document is a certificate issued by the certification body. Furthermore, because of the on-line IECEx database, any purchaser of the equipment can check the current status of the certificate in real time – current, suspended or withdrawn.

### **Advantages**

ATEX has one advantage over IECEx: it is possible to fudge compliance with standards. Although an advantage when correctly applied to assist in the introduction of new technology, it does leave doubt as to exactly which requirements from standards have been applied in order to claim compliance with the EHSRs.

In contrast, IECEx is totally transparent and you get what you see: absolute compliance with the nominated standards.

Notified Bodies for the ATEX Directive are springing up all over the place in Europe, it is a commercial free-for-all and it is not entirely clear where some of these bodies are getting their expertise, or the criteria being used for notification. It is a complicated subject and at Baseefa we believe there is at least a two year training period before a new project engineer is up to speed across a range of concepts.

IECEx has a closely controlled peer assessment process to monitor the level of competence of the certification bodies that it admits to membership, thus giving confidence in the quality of the work of the body and the degree of confidence that can be placed in the certified equipment. It is an absolute rule in the scheme that the assessors come from three different countries and none from the country of the applicant certification body.

## **The Route for Europe**

The target end point has to be acceptance of an IECEx Certificate directly into Europe as meeting the ATEX Directive. We are a little away from this at the moment, though many people, including Cenelec, are working towards it, by ensuring that there are no technical differences between the IEC and EN standards. The most recent initiatives have taken place in the United Nations Economic Commission for Europe (UN-ECE) where discussions are centring on how IECEx can satisfy the legal requirements for both Europe and North America.

This type of work always makes slow progress but, in the mean time, by working to the IECEx procedures it is possible to produce a set of documentation that merely requires an ATEX "cover" to meet the requirements of both schemes. With experience, we have found that it is possible to carry out the production control processes for both schemes without any increase in cost. A true two for the price of one offer. When basing the ATEX Type Examination documentation on the IECEx Report, a little more work is required, but it is much easier to base ATEX on IECEx, rather than the other way round. When a second IECEx body from outside Europe is involved in one of the phases, the situation gets slightly complicated by issues of accreditation, notification and public liability for the European body, but the process still works very well.

## **The Verdict**

For the "Bees Knees", you need both together :

**IECEx for credibility and worldwide sales**  
plus  
**ATEX for legal acceptability in Europe**

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