



Every two months, Prof. Dr. Thorsten Arnhold, IECEx Chairman 2014-2019, provides an update on developments within the organisation.

**The IEC is based on two strong pillars: the first is the generation and maintenance of international standards dealing with all significant aspects of safety and security for almost every electrical or electronic product. The other is to make sure the assessment of products, services, manufacturing rules and procedures are exactly in line with the requirements of the relevant standards.**

I want to explain how this unique symbiosis is creating value for different stakeholders. Experts who represent a broad range of different interested parties develop an international standard. They try to develop a consensus on what the norm should be in terms of measurements, ratings, vocabulary, performance, safety, reliability and so on; whatever is relevant to a given topic.

The well-known voluntary consensus-based international standard is available for anybody to use and follow. Consensus-based means that every voice has been heard, at least a two thirds majority agreement by all interested parties has been achieved and any sustained opposition on substantial issues has been overcome. An international standard should not to be confused with a regulation, which is always obligatory and generally issued by a national or regional governmental body.

## Standardisation and Conformity Assessment at IEC

All this sounds like a lot of effort. Standardisation is a time and money consuming process even in times of restricted travelling. Therefore, it should be permitted to ask who benefits from international standards.

Just to mention the most important and most obvious relationships we can say that manufacturers can use standards as blueprints for the overall safety structure of the product design. By doing this they can profit from the comprehensive experience of numerous experts. They can use the specified test procedures to evaluate if their product is fulfilling the specifications.

For the operators of industrial plants, the benefits are to be found in the definition of minimum safety requirements (avoid doing more or less than necessary) and in the global availability of a broad range of products from different manufacturers with standardised safety and functionality features.

For regulators, the major benefit of standards consists of the transformation of general requirements hedged in laws into specific and detailed requirements and guidelines for practical use.

International standards define a level of safety which has to be fulfilled at least to keep the risks to people and the environment in commonly accepted limits. By this, standards are comparable to safety nets: the worker or artist can fail and fall but he or she is not hurt or killed.

Setting standards is just one side of the coin, however. We have to acknowledge the fact that standards which are not followed are worth nothing. In this sense, similar again to a safety net which only prohibits accidents if it is installed correctly, the full value of standards is only gained if there is an ongoing assessment which ensures they are correctly followed.

Conformity assessment systems, especially if they are closely interconnected to standards generation and maintenance, help to ensure that the standard requirements are fulfilled not only for product samples but also for all products delivered to the customer.

By providing mutual recognition of test results and certificates, conformity assessment systems under the roof of a global organisation like IEC ensure that only the necessary efforts and costs have to be covered by the manufacturers. Multiple tests of the same features can be avoided; the bureaucracy and paperwork can be reduced significantly. All this of course without any decline of the safety level.

What are the important elements of conformity assessment? Who are the major players in the game? The IEC Conformity assessment systems consist of networks of independent organisations connected by a kind of franchise system. The active players doing the day-to-day operative business with the end customers are the Certification Bodies and Test Laboratories.

Like in other franchise systems, IEC is providing the infrastructure for the CA activities. Based on a strong brand name, IEC provides a system of rules, procedures and operational documents as well as standard formats and templates. Professional secretary organisations support and control the operative business of every CA system. The CA systems homepage is the central communication platform where all relevant information, documents and data are available 24/7. Another unique feature is the online certificate database. All active certificates are available from here. Finally, all the documents and copies of certificates can be downloaded free of charge.

With this backbone, the Certification Bodies and Test Labs are doing their job with their customers independently within the frame that is established by the contract with IEC and the scope of their activities. ■