



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

**C**omplaints are often heard from industry circles about the alleged slowness and cumbersome nature of standardisation organisations. This would hinder technical progress in industry and society and negatively affect business life. Such sweeping statements should always be treated with the necessary caution.

On the one hand, these complaints usually contain a core of truth and should be an incentive for the constant improvement of standardisation processes. On the other hand, there are countless examples of standardisation projects that were implemented in a very short time at the urging of industry or related areas. I would like to describe one such example from the field of explosion protection.

In September 2014, the Executive Group of the IECEx system met in Dubai. An intensively discussed topic during the meeting was the testing and certification of explosion-proof assemblies. The representatives of the certification bodies (hereafter ExCB) pointed out that although they had sufficient competence to test and certify individual explosion-proof equipment with the different types of protection, they often differed in the assessment of the assembly and the external electrical wiring of various equipment to assemblies would be

## An incentive for the constant improvement of standardisation processes

overwhelmed. The electrical installation of Ex equipment, for example, is a typical task of operators and contracted specialist companies and does not necessarily belong to the range of competence of an ExCB.

In addition, manufacturers often lack the necessary information to be able to carry out a comprehensive and correct assessment.

The correct workmanship during the electrical and mechanical installation of the individual parts is decisive for the safety of the complete assembly.

The example of the European ATEX directive shows the value of a kind of bridging document that specifies possible safety concepts for the assembly of equipment into explosion-protected assemblies. A special IEC standard or at least a technical specification (IEC/TS) should be drawn up that would contain the most important specifications for the correct assembly of Ex assemblies and would thus serve as a test and certification basis for ExCBs.

A corresponding proposal (New Work Item Proposal) was developed and submitted to the Technical Committee TC 31 of IEC, which accepted it. The first meeting of the new standards committee (Maintenance Team/MT) took place in spring 2015 in Windsor near London. The participation of more than 50 international experts in this kick-off meeting, as well as the record speed of completion of the document, underscored the importance and urgency of the solution. Just over two years after the kick-off meeting, the IEC/TS was published as a valid document in 2017.

In the introduction it says: "This technical specification provides requirements for the design, construction, assembly, testing, initial inspection, marking, documenting

and assessment of equipment assemblies such that the items of Ex equipment and the interconnection of the items of equipment form an assembly that also meets other parts of the ISO 80079 and IEC 60079 series."

In addition to these specifications for the activities mentioned, the technical specification primarily deals with the mechanical assembly and the electrical connection of the various components, which can also be certified Ex devices, but do not always have to be. The explosion protection of the entire assembly must be guaranteed through correct assembly and the electrical connection technology, i.e. no new sources of ignition may be generated as a result.

The new technical specification was immediately accepted by the manufacturers, system integrators, the ExCBs and the operators of process plants after its publication and has been used intensively ever since. Today, about five years after it came into force, almost all IECExCBs are accredited for the testing and certification of assemblies according to IEC/TS 60079-46. A look at the IECEx online database reveals that around 290 certificates for assemblies based on this document have currently been issued – a real success story. The fact that 17 certificates for hydrogen assemblies have already been issued is particularly pleasing.

In order to be able to offer even more suitable testing and certification services in this future area, the new IECEx operational document OD 290, which was developed in close cooperation with ISO TC 197, was recently adopted by IECEx. This document was also created in record time. So, sometimes the performance of the standards organisations is actually much better than their reputation! ■