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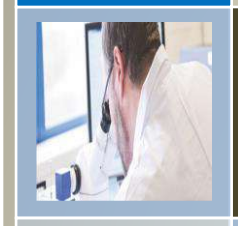

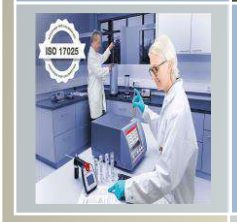

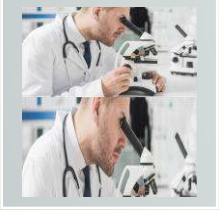

ISO 17025 Accreditation for Calibration and Testing Lab

What is ISO 17025 Accreditation for Calibration and Testing Lab?

ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories is the main ISO/IEC standard used by testing and calibration laboratories. In most countries, ISO/IEC 17025 is the standard for which most labs must hold accreditation in order to be deemed technically competent. In many cases, suppliers and regulatory authorities will not accept test or calibration results from a lab that is not accredited. Originally known as ISO/IEC Guide 25, ISO/IEC 17025 was initially issued by ISO/IEC in 1999. There are many commonalities with the ISO 9000 standard, but ISO/IEC 17025 is more specific in requirements for competence and applies directly to those organizations that produce testing and calibration results and is based on somewhat more technical principles. Laboratories use ISO/IEC 17025 to implement a quality system aimed at improving their ability to consistently produce valid results. It is also the basis for accreditation from an accreditation body.

There have been three releases; in 1999, 2005 and 2017. The most significant changes between the 1999 and 2005 release were a greater emphasis on the responsibilities of senior management, explicit requirements for continual improvement of the management system itself, and communication with the customer. It also aligned more closely with the 2000 version of ISO 9001

The 2005 version of the standard comprises five elements; Normative References, Terms and Definitions, Management Requirements, and Technical Requirements. Management requirements are primarily related to the operation and effectiveness of the quality management system within the laboratory. Technical requirements include factors that determine the correctness and reliability of the tests and calibrations performed in the laboratory.

The 2017 version of ISO/IEC 17025 has modified this structure to be Scope, Normative References, Terms and Definitions, General Requirements, Structural Requirements, Resource Requirements, Process Requirements, and Management System Requirements. General Requirements and Structural Requirements are related to the organization of the laboratory itself. Resource Requirements cite those issues related to the people, plant, and other organizations used by the laboratory to produce its technically valid results. Process Requirements are the heart of this version of the standard in describing the activities to ensure that results are based on accepted science and aimed at technical validity. Management System Requirements are those steps taken by the organization to give itself quality management system tools to support the work of its people in the production of technically valid results.

Predecessors

Some national systems (e.g. UKAS M10 in the UK) were the forerunners of ISO/IEC 17025:1999 but could also be exceedingly prescriptive. ISO/IEC 17025 allows laboratories to carry out procedures in their own ways, but require the laboratory to justify using a particular method.

In common with other ISO quality standards, ISO/IEC 17025 requires continual improvement. Additionally, the laboratory will be expected to keep abreast of scientific and technological advances in relevant areas.

In common with other accreditation standards of the ISO 17000 series (and unlike most ISO standards for management systems), assessment of the laboratory is normally carried out by the national organization responsible for accreditation. Laboratories are therefore "accredited" under ISO/IEC 17025, rather than "certified" or "registered" by a third party service as is the case with ISO 9000 quality standard.

In short, accreditation differs from certification by adding the concept of a third party (Accreditation Body (AB)) attesting to technical competence within a laboratory in addition to its adherence and operation under a documented quality system, specific to a Scope of Accreditation.

Accreditation bodies

In order for accreditation bodies to recognize each other's accreditations, the International Laboratory Accreditation Cooperation (ILAC) worked to establish methods of evaluating accreditation bodies against another ISO/CASCO standard (ISO/IEC Guide 58 - which became ISO/IEC 17011). Around the world, regions such as the European Community, the Asia-Pacific, the Americas and others, established regional cooperations to manage the work needed for such mutual recognition. These regional bodies (all working within the ILAC umbrella) include European Accreditation Cooperation (EA), the Asia Pacific Laboratory Accreditation Cooperation (APLAC), Southern African Development Community Cooperation in Accreditation (SADCA) and the Inter-American Accreditation Cooperation (IAAC).

The first laboratory accreditation bodies to be established were National Association of Testing Authorities (NATA) in Australia (1947) and TeLaRC in New Zealand (1973). Most other bodies are based on the NATA/TELARC model include UKAS in the UK, FINAS in Finland and DANAK in Denmark to name a few.

In the U.S. there are several, multidisciplinary accreditation bodies that serve the laboratory community. These bodies accredit testing and calibration labs, reference material producers, PT providers, product certifiers, inspection bodies, forensic institutions and others to a multitude of standards and programs. These ILAC MRA signatory accreditation bodies carry identical acceptance across the globe. It does not matter which AB is utilized for accreditation. The MRA arrangement was designed with equal weight across all economies.

List of International Organization for Standardization standards

This is a list of published International Organization for Standardization (ISO) standards and other deliverables. For a complete and up-to-date list of all the ISO standards, see the ISO catalogue.

The standards are protected by copyright and most of them must be purchased. However, about 300 of the standards produced by ISO and IEC's Joint Technical Committee 1 (JTC 1) have been made freely and publicly available.

ISO Brand

This is a dynamic list and may never be able to satisfy particular standards for completeness. You can help by adding missing items with reliable sources.

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Method

ISO 50001 provides a framework of requirements that help organizations to:

- develop a policy for more efficient use of energy
- fix targets and objectives to meet the policy
- use data to better understand and make decisions concerning energy use and consumption
- measure the results
- review the effectiveness of the policy and
- continually improve energy management.

ISO 50001 focuses on a continual improvement process to achieve the objectives related to the environmental performance of an organization (enterprise, service provider, administration, etc.). The process follows a plan – do – check – act approach.

The 4 phases of the PDCA circle

The overall responsibility for the installed energy management system must be located with the top management. An energy officer and an energy team should be appointed. Furthermore, the organization has to formulate the energy policy in form of a written statement which contains the intent and direction of energy policy. Energy policy must be communicated within the organization. The energy team is the connection between management and employees. In this phase the organization has to identify the significant energy uses and prioritize the opportunities for energy performance improvement.

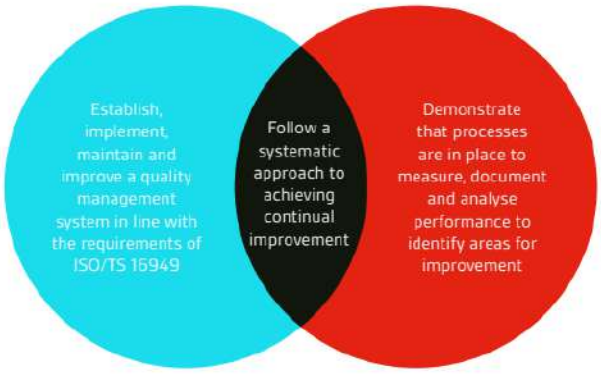
Certification

Certification proves that the energy management system meets the requirements of ISO 50001. This gives customers, stakeholders, employees and management more confidence that the organization is saving energy. It also helps to ensure that the energy management system is working throughout the organization.

Another advantage of a certification is its emphasis on continual improvement. The organization will continue to get better at managing its energy. Additional cost savings can be generated over several years. Furthermore, certifying an organization shows your public commitment to energy management.

UKAS, the certification bodies' accreditation scheme in UK, accredits certification bodies to carry out certification of business energy management systems to ISO 50001. In July 2018, there were 15 UK bodies with the necessary accreditation to carry out independent audits and issue Energy Management Systems Certification to ISO 50001.

The principal requirements of the standard are illustrated below:



The next few pages of the guide takes you through the Plan-Do-Check-Act (PDCA) methodology, common in all ISO management systems and how DCS can help and support you on your ISO/TS 16949 journey.

Understanding the principles of continual improvement