

Laboratory Accreditation Overview

What is laboratory accreditation?

Laboratory accreditation is a 3rd party assessment of a Calibration or Testing laboratory by the Laboratory Accreditation Body, to evaluate the laboratory's compliance to the requirements of ISO/IEC 17025 and any additional applicable accreditation policies.

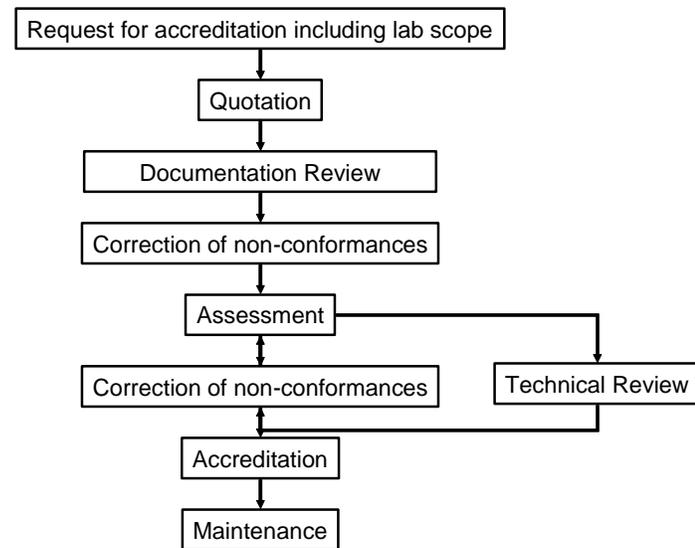
Why is laboratory accreditation needed?

Much of the need for laboratory accreditation is driven from industry. As an example, the automotive industry generally requires that a commercial/independent calibration or testing laboratory, which services an ISO TS16949 registered facility, be accredited to ISO/IEC 17025. The reason for this is laboratory accreditation provides a 3rd party method of evaluating the technical competence of a calibration or testing laboratory, using internationally recognized processes and standards and experts in the appropriate technical field. This provides some assurance to the customer that measurement results generated by the accredited laboratory meet the stated accuracy, precision and traceability.

How is laboratory accreditation achieved?

In order for a laboratory to become accredited it must not only prove it has a quality system that meets the specific requirements, it must also prove it is technically competent, i.e. meets the claimed measurement accuracies and traceability, for the testing or calibrations listed on its Scope of Accreditation.

This flow chart shows the general process for a laboratory seeking accreditation. The process starts with the laboratory's Scope of Accreditation listing the fields of testing or calibration for which it is seeking accreditation. The laboratory scope is provided to the Accrediting body when applying for accreditation, which starts the accreditation process and sets the scope of the technical review by the Accrediting body. When a laboratory is accredited it will receive a certificate, indicating its quality system meets specific requirements, e.g. ISO/IEC 17015, additionally one to several pages added to the back of the certificate stating what testing or calibration the laboratory can perform and to what level of accuracy.



What requirements must an accreditation body's system meet?

An Accreditation Body's system must meet certain international quality system and technical requirements.

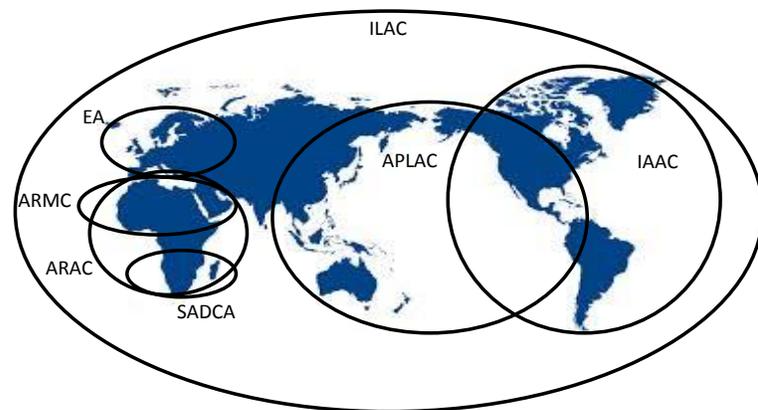
ISO/IEC 17011 *Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies* -- governs the way an AB operates as an accrediting body and, in turn, helps to promote international recognition of the AB's system.

ISO/IEC 17043 *Conformity Assessment – General requirements for proficiency testing* -- provides the general requirements for evaluating the competence of a Proficiency Testing provider as well as the requirement for developing a proficiency testing scheme. The primary focus of this document is the use of Inter-laboratory comparisons as the form of proficiency testing.

International Laboratory Accreditation Cooperation (ILAC) Policies -- These policies provide guidance for how a laboratory accrediting body should address uncertainty of measurement, proficiency testing, and traceability of measurement.

How are accreditation bodies recognized internationally?

As an accredited laboratory, they may be asked by their customers if their accreditation is recognized within a specific region or country. There is a network connecting Accrediting Bodies to a single global system managed by the International Laboratory Accreditation Cooperation (ILAC), which provides consistency in the methods and processes when accrediting laboratories. To the right is a diagram describing this global network, showing ILAC and the associated regional bodies around the world. As the various national/international accreditation schemes develop more and more accreditation bodies form, mutual recognition of these various systems becomes critical to assure consistency in the quality of accreditation.



- ILAC – International Laboratory Accreditation Cooperation
- EA – European Cooperation for Accreditation
- APLAC - Asian Pacific Laboratory Accreditation Cooperation
- IAAC - Inter-America Accreditation Cooperation
- SADCA – South African Development Community Accreditation
- ARAC – African Regional Accreditation Cooperation
- ARMC – Arabic Accreditation Cooperation

How do industries use the international systems of accreditation?

As an example, the Automotive Industry generally accepts laboratories that are accredited by accreditation bodies connected to the ILAC system, indicating that a laboratory accredited by any one of these recognized accrediting bodies is an approved source of accredited testing or calibration.