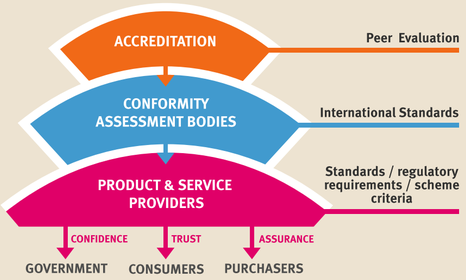
ACCREDITATION IN SUPPORT OF THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

UNIDO's vision to address today's economic, social and environmental challenges is enshrined in the Lima Declaration, adopted by UNIDO Member States in December 2013. On this basis, UNIDO pursues "Inclusive and Sustainable Industrial Development" to harness industry's full potential to contribute to lasting prosperity for all.

17 Sustainable Development Goals (SDGs) with 169 associated targets constitute the core of the UNIDO 2030 Agenda for Sustainable Development. These provide a new development framework that seeks to transform the world and guide all global, regional and national development endeavours for the next 15 years.

Maintaining strategic partnerships and technical cooperation, together with the use of standards and compliance related activities, form an important part of UNIDO's approach. The relationship between UNIDO, the International Accreditation Forum (IAF), and the International Laboratory Accreditation Cooperation (ILAC) is one such strategic partnership.



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THE ROLE OF ACCREDITATION

Accreditation is an attestation of the competence and impartiality of conformity assessment bodies to carry out specific conformity assessment tasks. These bodies include but are not limited to calibration laboratories, medical laboratories, testing laboratories, inspection bodies, providers of proficiency testing, producers of reference materials, and bodies that certify management systems, products and persons, or undertake verification and validation.

It is an impartial and objective process carried-out by third-parties, that offers the least duplicative, the most transparent, the most widely accepted, and the least discriminatory route for the formal recognition world-wide of credible and trustworthy conformity assessment results.

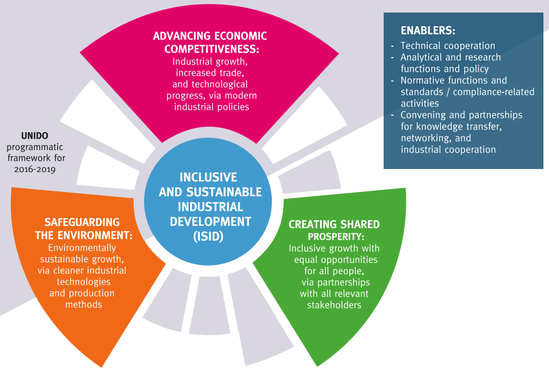
Accreditation benefits both a country's domestic economy and its international trade:

- For governments and regulators – to help them meet regulatory and legislative (including WTO TBT) responsibilities, reduced uncertainties in decisions affecting the protection of human health and the environment, a flexible alternative to legislation, a facilitator of trade, improved markets with more confidence in partners, goods and services, and an efficient monitoring tool
- For businesses - greater acceptance of products and services, a tool for market access, the means to avoid costs of multiple testing, inspections or certifications, reduced errors in production, minimised product failures or recalls, more satisfied customers, marketing and reputational advantage, and more informed procurement selection
- For consumers – greater public confidence in goods and services in a complex global marketplace

For those trading internationally, recognition of accredited conformity assessment results comes through mutual recognition arrangements established between the accreditation body members of IAF and ILAC. These ensure that the accreditation of conformity assessment bodies to international standards around the world is carried out consistently, and so conformity assessment results covered by accreditation under the IAF and ILAC umbrella can be accepted everywhere with equal confidence.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO has extensive experience in assisting countries to strengthen their competitiveness in global markets through capacity-building in quality, environmental sustainability, and social accountability requirements in accordance with international management system standards and private sector requirements. UNIDO seeks to build up the national and regional quality infrastructure needed to provide internationally recognized quality assurance services. It provides services to strengthen national capacities to establish the legal and institutional frameworks for standards and conformity assessment. Specifically, UNIDO provides policy guidance and institutional capacity-building interventions related to standards, metrology, testing, inspection, certification and accreditation, which are needed to participate effectively in the multilateral trading system. The demonstration of market compliance enables exporters to reduce the cost of compliance and facilitate access to global markets. Assistance is also provided to strengthen consumer authorities and consumer associations in developing countries.



INTERNATIONAL ACCREDITATION FORUM

IAF is the world association of conformity assessment accreditation bodies and other bodies interested in conformity assessment in the fields of management systems, products, services, personnel and other similar programmes of conformity assessment.

INTERNATIONAL LABORATORY ACCREDITATION COOPERATION

ILAC is the international organisation for accreditation bodies accrediting calibration laboratories, testing laboratories, medical testing laboratories, inspection bodies, proficiency testing providers and providers of reference materials".

Accreditation body members of IAF and ILAC operate in accordance with the international standard ISO/IEC 17011 "Conformity assessment -- General requirements for accreditation bodies accrediting conformity assessment bodies". Each organisation maintains a multilateral mutual recognition arrangement between signatory accreditation body members who have been successfully peer evaluated in accordance with this standard to demonstrate their competence. Signatories agree to accept the results of each other's conformity assessment bodies under the arrangements, and so accredited conformity assessment under the accreditation of each signatory is able to be recognized internationally.

Both organisations work together and coordinate their efforts and those of regional cooperations to enhance accreditation and conformity assessment worldwide. Together, they have a global vision of a single worldwide programme of conformity assessment which reduces risk for business, regulators and the consumer, by ensuring that accredited services can be relied upon; that government and regulators rely on the IAF and ILAC Arrangements to further develop or enhance trade agreements; and to support the freedom of world trade by eliminating technical barriers, realizing the free-trade goal of 'tested, inspected or certified once and accepted everywhere'.

50 YEARS TOGETHER for a sustainable future

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THE ROLE OF ACCREDITATION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT GOALS

THE ROLE OF ACCREDITATION IN THE 2030 DEVELOPMENT AGENDA

GENERAL EXAMPLE – ACCREDITATION OF LABORATORIES

Industries, whether they be from environmental, clinical, chemical, construction, forensic science, electrical, food or other sectors, routinely require laboratory testing or calibration services in support of their work. Accreditation provides a means of evaluating the competence of these laboratories to perform specific types of testing, measurement and calibration, and thus formal recognition that the laboratories meet the criteria of the internationally accepted standard ISO/IEC 17025 (or ISO 15189 for medical laboratories). Accreditation bodies use this standard to assess factors relevant to a laboratory's ability to produce precise, accurate test and calibration data, including the technical competence of staff, validity and appropriateness of test methods, traceability of measurements and calibrations to national standards, calibration and maintenance of test equipment, the testing environment, sampling and handling of test items, and quality assurance of test and calibration data.

GENERAL EXAMPLE - ACCREDITATION OF INSPECTION BODIES

Inspection, which is the examination of a product design, product, service, process or installation to determine conformity with general or specified requirements, is an essential part of ensuring the operational safety of many items that the public use in their daily lives. Examples of activities which benefit from accreditation include inspection of boilers and pressure equipment used in the workplace, cranes and passenger ropeways, offshore structures for oil and gas exploration and production, mechanical equipment, as well as non-destructive testing, inspection of meat, dairy products and other food production, bio-security and border control inspections. Accreditation bodies use the criteria of the internationally accepted standard ISO/IEC 17020 to assess factors relevant to an inspection body's ability to produce consistently reliable and impartial inspection results.

GENERAL EXAMPLE - ACCREDITATION OF CERTIFICATION BODIES

Third party certification of management systems is a frequently specified requirement to operate in the global market place. It can demonstrate compliance to a standard, a code of practice or regulatory requirements, and is frequently used in most areas covered by the SDGs. Accreditation of certification bodies against the international standard ISO/IEC 17021 provides an independent evaluation of their impartiality, competence and consistency.

- Quality Management System certification (ISO 9001)
- Information Security Management (ISO/IEC 27001)
- Environmental Management (ISO 14001)
- IT Service Management (ISO 20000)
- Food Safety Management (ISO 22000)
- Supply Chain Security Management (ISO 28000)
- Business Continuity Management (ISO 22301)
- Health and Safety Management (OHSAS 18001)
- Information Technology Service Management (ISO/IEC 20000-1)
- Supply Chain Security Management (ISO 28000)
- Energy Management (ISO 50001)
- Asset Management (ISO 55001)

Accreditation may also be applied to certification used to provide third party assurance that a particular product meets the specified requirements of a product standard (ISO/IEC 17065) or that persons meet the requirements of a particular personnel certification scheme (ISO/IEC 17024). More recently, greenhouse gas validation and verification bodies have also been accredited (ISO 14065).

GOOD HEALTH AND WELL BEING

3 GOOD HEALTH AND WELL-BEING

Health is a crucially important social and economic asset and a cornerstone for human development. Whilst the provision of universal health coverage remains a major global challenge, the use of accreditation within the health and social care sector can help drive up the quality and consistency of services provided.

Medical laboratory services are essential in the diagnosis and assessment of the health of patients, and encompass arrangements for requisition, patient preparation, patient identification, collection of samples, transportation, storage, processing and examination of clinical samples, together with subsequent result validation, interpretation, reporting and advice. Results need to be accurate, timely, linked to the correct patient and processed with respect for ethics, confidentiality and the safety of the patient. Accreditation to the internationally recognised standard ISO 15189 enables laboratories to demonstrate their competence to deliver these services reliably.

Also:

- Point of Care Testing - where testing is carried out outside the controlled and regulated environment of a medical laboratory, to enable patients to still be able to trust the results
- Reference material producers - to demonstrate that they are competent to produce necessary reference materials (such as blood, urine or serum), allowing laboratories to verify their ability to measure accurately
- Medical reference measurement laboratories to enable the accuracy and traceability of some measurements in medical laboratories to be demonstrated
- Accredited certification to ISO 9001 for organisations that provide of health and social care services to demonstrate continuous support to quality
- Accreditation of inspection bodies inspecting health related services
- Medical devices under accredited certification to the international standard ISO 13485 demonstrating manufacturers address regulations and have commitment to safety and quality

SAFE FOOD AND CLEAN DRINKING WATER

6 CLEAN WATER AND SANITATION

Food and water safety is an essential part of everyday life. Accreditation provides assurance that consumers, suppliers, purchasers and specifiers can have confidence in the quality and safety of goods, and in the provision of services throughout the supply chain. Samples, products, services, management systems or personnel can be evaluated against specified requirements by accredited laboratories, certification bodies, and inspection bodies to check that products are fit and safe for consumption.

- Food and water testing for a wide range of chemical and microbiological scopes, packaging and environmental testing, sensory analysis, plant health, and veterinary microbiology
- Certification schemes ensure food and water suppliers throughout a supply chain comply with agreed requirements, such as those for food safety management systems, farm assurance schemes, product certification, food labelling, organic certification and HACCP
- Inspection of operators throughout the supply chain for the provision of safe food and clean drinking water, including the inspection of pre-shipment, plant health, meat and slaughterhouses, and hotels
- Proficiency testing schemes, for example for contamination or authenticity
- Reference material producers for a number of materials including drinks, foodstuffs, animal feed, herbal medicines, and water

EXAMPLES OF HOW ACCREDITATION CAN SUPPORT SPECIFIC SDGS

ENHANCING THE USE OF ENERGY

7 AFFORDABLE AND CLEAN ENERGY

The application of energy-efficient production processes and technologies, along with enhanced utilization of renewable energy sources which will provide an opportunity for countries to follow a low-carbon and low-emissions growth path, powered by innovative, smart and locally relevant energy solutions, is a challenging aspiration for the future.

The provision of energy involves complex supply chains and processes, often involving cross-border trade and the transportation of volatile substances. The commercial development of alternative renewable sources of energy needs to be environmentally-friendly, and demonstrate value in terms of cost, reliability, durability and performance. Accreditation supports governments and organisations in the process of enhancing the performance of energy efficiencies and improving economic performance, whilst reducing consumption of resource and emissions and preventing unsafe, unhealthy or environmentally harmful products from entering the market place.

- Testing of gas, fuels and oils in order to ensure that they meet their intended purpose, including testing for sulphur content, correct additives in the right concentrations, or the presence of bacterial contaminants or fuel degradation levels
- Testing new technologies such as tidal and wind energy
- Testing products such as wind turbines and solar panels to measure performance, durability, safety, and environmentally-friendly considerations
- Safety inspections of energy-related installations, including petro chemical, solar energy, marine and wind farms, energy efficient lighting, smart infrastructures, nuclear installations, and coal-fired power stations
- Certification of energy management systems to help businesses improve energy-related performance and identify energy reduction opportunities

HEALTH AND SAFETY IN THE WORKPLACE

8 DECENT WORK AND ECONOMIC GROWTH

Health and safety are well recognized as having an impact on sustainable development – from eradicating poverty through job creation, sustainable livelihoods, technology and skills development, food security and equitable growth; to ensuring sustainable consumption and production through dealing with environmental concerns related to health and safety in the workplace.

Businesses face increasing social, commercial and regulatory pressures to assess and control hazards and risks from their operations. Accreditation ensures that employees, purchasers and regulators can have confidence in the provision of services that have an impact on health and safety.

- Testing including occupational hygiene, asbestos fibres and air monitoring, identification of legionella bacteria, land and air pollutants, and electrical safety
- Certification of Occupational Health and Safety Management systems or other management systems
- Inspection to support the management of effective health and safety

ACCREDITATION IN INDUSTRY AND MANUFACTURING

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Industrialization is one of the main drivers of sustained economic growth and sustainable development. Industry is also the most dynamic driver of prosperity and collective wellbeing. Industrial development is therefore a key objective intrinsically woven into the architecture of the 2030 Agenda. Manufacturers need to ensure products are of consistent high quality, comply with regulations and standards, and meet specification. Accreditation enables consumers, suppliers, purchasers and regulators to have confidence that products placed on the market are safe and meet the manufacturers claims made about them.

- Testing of food products, plastics, fuels and oils, detergents, paints and coatings, toys and consumer goods, textiles, glass, cosmetics, construction products, and electronic goods
- Calibration and dimensional testing to ensure accurate measurement
- Safety testing of products including children's cots and components, toys and their packaging, prams, bicycles, sport equipment, textiles, leather goods, ceramic and glass wear, and articles intended for use with food
- Chemical analysis and determination of physical parameters to ensure safe use of chemicals
- Inspection throughout the manufacturing supply chain including design and manufacturing inspection of items of equipment, production capability assessment, the construction of pressure systems, storage vessels and tanks, process plant and systems, and the carriage of dangerous goods by rail or road
- Certification in a range of areas that provide supply-chain confidence for those operating in the manufacturing sector

WASTE MANAGEMENT AND RE-CYCLING

13 CLIMATE ACTION

A sustainable environment for communities in the future needs cleaner energy, reduced pollution, and more effective chemical and waste management solutions to benefit from increased industrialization while safeguarding people and the environment. Accredited testing, certification and inspection provides assurance that waste management and recycling are being managed effectively.

- Testing of materials such as recycled oil, waste water, or contaminated land and soil being re-used for building development
- Proficiency testing providers for a range of environmentally related activities including drinking waters, industrial waste water, effluent, agricultural soils and sediment
- Reference material producers for a number of materials including waters, soils, sediments, fuel and their by-products
- Inspection of activities that have an environmental impact including the manufacture of paper, wood containers, glass, bricks, ceramic tiles, coke and refined petroleum, and re-cycling
- Certification of Environmental Management Systems and Energy Management Systems. Quality Management System certification also provides a foundation for consistency of procedures across business in accordance with specific national or regional waste management regulations