

What ISO offers

ISO is the International Organization for Standardization. It is made up of national standards institutes from countries large and small, industrialized and developing, in all regions of the world. ISO develops voluntary technical standards which add value to all types of business operations. They contribute to making the development, manufacturing and supply of products and services more efficient, safer and cleaner. They make trade between countries easier and fairer. ISO standards also serve to safeguard consumers, and users in general of products and services – as well as to making their lives simpler.

ISO develops only those standards which are required by the market. This work is carried out by experts on loan from the industrial, technical and business sectors which have asked for

the standards, and which subsequently put them to use. These experts may be joined by others with relevant knowledge, such as representatives of government agencies, consumer organizations, academia and testing laboratories.

Published under the designation of International Standards, ISO standards represent an international consensus on the state of the art in the technology concerned.

ISO's name

Because the name of the International Organization for Standardization would have different abbreviations in different languages (IOS in English, OIN in French), it was decided to use a word derived from the Greek *isos*, meaning "equal". Therefore, the short form of the Organization's name is always ISO.

How it started

International standardization began in the electrotechnical field: the International Electrotechnical Commission (IEC) was established in 1906. Pioneering work in other fields was carried out by the International Federation of the National Standardizing Associations (ISA), which was set up in 1926. The emphasis within ISA was laid heavily on mechanical engineering. ISA's activities came to an end in 1942.

In 1946, delegates from 25 countries met in London and decided to create a new international organization, of which the object would be "to facilitate the international coordination and unification of industrial standards". The new organization, ISO, officially began operating on 23 February 1947.

Non-governmental

ISO currently has some 140 member organizations on the basis of one member per country. ISO is a non-governmental organization and its members are not, therefore, national governments, but are the standards institutes in their respective countries.

Equal footing

Every participating member has the right to take part in the development of any standard which it judges to be important to its country's economy. No matter what the size or strength of that economy, each participating member in ISO has one vote. ISO's activities are thus carried out in a democratic framework where each country is on an equal footing to influence the direction of ISO's work at the strategic level, as well as the technical content of its individual standards.

Voluntary

ISO standards are voluntary. ISO does not enforce their implementation. A certain percentage of ISO standards – mainly those concerned with health, safety or the environment – has been adopted in some countries as part of their regulatory framework, or is referred to in legislation for which it serves as the technical basis. However, such adoptions are sovereign decisions by the regulatory authorities or governments of the countries concerned. ISO itself does not regulate or legislate.

Market-driven

ISO standards are market-driven. They are developed by international consensus among experts drawn from the industrial, technical and business sectors that have

expressed the need for a particular standard. These may be joined by experts from government, regulatory authorities, testing bodies, academia, consumer groups or other relevant bodies.

Consensus

Although ISO standards are voluntary, the fact that they are developed in response to market demand, and are based on consensus among the interested parties, ensures widespread use of the standards.

Worldwide

ISO standards are technical agreements which provide the framework for compatible technology worldwide. Developing technical consensus on this international scale is a major operation. It is estimated that every

working day of the year, there are some 12 meetings around the world of ISO technical groups in which the standards-development work is actually carried out. In all, there are more than 2 850 of these groups in which some 30 000 experts participate annually. This technical work is coordinated from ISO Central Secretariat in Geneva, which also publishes the standards.

Quantity and quality

Since 1947, ISO has published more than 13 500 International Standards. ISO's work programme ranges from standards for traditional activities, such as agriculture and construction, through mechanical engineering to the newest information technology developments, such as the digital coding of audio-visual signals for multimedia applications.

Standardization of screw threads helps to keep chairs, children's bicycles and aircraft together and solves the repair and maintenance problems caused by a lack of standardization that were once a major headache for manufacturers and product users. Standards establishing an international consensus on terminology make technology transfer easier and can represent an important stage in the advancement of new technologies.

Without the standardized dimensions of freight containers, international trade would be slower and more expensive. Without the standardization of telephone and banking cards, life would be more complicated. A lack of standardization may even affect the quality of life itself: for the disabled, for example, when they are barred access to consumer products, public transport and buildings because the dimensions of wheelchairs and entrances are not standardized.

Standardized symbols provide danger warnings and information across linguistic frontiers. Consensus on grades of various materials give a common reference for suppliers and clients in business dealings.

Agreement on a sufficient number of variations of a product to meet most current applications allows economies of scale with cost benefits for both producers and consumers. An example is the standardization of paper sizes.

Standardization of performance or safety requirements of diverse equipment makes sure that users' needs are met while allowing individual manufacturers the freedom to design their own solution on how to meet those needs. Consumers then have a choice of products which nevertheless meet basic requirements and they benefit from the effects of competition among manufacturers.

Standardized protocols allow computers from different vendors to “talk” to each other. Standardized documents speed up the transit of goods, or identify sensitive or dangerous cargoes that may be handled by people speaking different languages. Standardization of connections and interfaces of all types ensures the compatibility of equipment of diverse origins and the interoperability of different technologies.

Agreement on test methods allows meaningful comparisons of products, or plays an important part in controlling pollution – whether by noise, vibration or emissions. Safety standards for machinery protect people at work, at play, at sea... and at the dentist’s.

Without the international agreement contained in ISO standards on quantities and units, shopping and trade would be haphazard, science would be – well,

unscientific – and technological development would be handicapped.

More than 500 000 organizations in 160 countries are implementing ISO 9000 which provides a framework for quality management throughout the processes of producing and delivering products and services for the customer.

Conformity assessment

It is not the role of ISO to verify that ISO standards are being implemented by users in conformity with the requirements of the standards. Conformity assessment – as this verification process is known – is a matter for suppliers and their clients in the private sector, and of regulatory bodies when ISO standards have been incorporated into public legislation.

In addition, there exist many testing laboratories and auditing bodies which offer independent (also known as “third party”) conformity assessment services to verify that products, services or systems measure up to ISO standards. Such organizations may perform these services under a mandate to a regulatory authority, or as a commercial activity of which the aim is to create confidence between suppliers and their clients.

However, ISO develops ISO/IEC guides and standards to be used by organizations which carry out conformity assessment activities. The voluntary criteria contained in these guides represent an international consensus on what constitutes best practice. Their use contributes to the consistency and coherence of conformity assessment worldwide and so facilitates trade across borders.

Certification

When a product, service, or system has been assessed by a competent authority as conforming to the requirements of a relevant standard, a certificate may be issued as proof. For example, many thousands of ISO 9000 certificates have been issued to businesses around the world attesting to the fact that a quality management system operated by the company concerned conforms to one of the ISO 9000 standards. Likewise, more and more companies now seek certification of their environmental management systems to the ISO 14001 standard. ISO itself does not carry out certification to its management system standards and it does not issue either ISO 9000 or ISO 14000 certificates.

International partners

ISO collaborates with its partners in international standardization, the IEC, whose scope of activities complements ISO's. In turn, ISO and the IEC cooperate on a joint basis with the ITU (International Telecommunication Union). Like ISO, the IEC is a non-governmental body, while the ITU is part of the United Nations Organization and its members are governments. The three organizations have a strong collaboration on standardization in the fields of information technology and telecommunications.

World trade

ISO – together with IEC and ITU – has built a partnership with the World Trade Organization (WTO) with the common goal of promoting a free and fair global trading system. The political agreements reached within the framework of the WTO require underpinning by technical agreements. ISO, IEC and ITU, as the three principal organizations in international standardization, have the complementary scopes, the framework, the expertise and the experience to provide this technical support for the growth of the global market.

Regional partners

Many of ISO's members also belong to regional standardization organizations. This makes it easier for ISO to build bridges with regional standardization activities throughout the world. ISO has recognized regional standards organizations representing Africa, the Arab countries, the area covered by the Commonwealth of Independent States, Europe, Latin America, the Pacific area, and the South-East Asia nations. These recognitions are based on a commitment by the regional bodies to adopt ISO standards – whenever possible without change – as the national standards of their members and to initiate the development of divergent standards only if no appropriate ISO standards are available for direct adoption.

Specialist liaisons

ISO also liaises with some 550 international and regional organizations interested in aspects of ISO's standardization work. These include the 28 or so international standards-developing bodies outside the ISO/IEC system. Each of these bodies works in a specific area, usually with a United Nations mandate; an example is the World Health Organization. ISO and the IEC together produce about 85% of all International Standards, and these other specialized bodies account for the rest.

ISO

To sum up, ISO standards are market-driven. They are developed on the basis of international consensus among experts from the sector which has expressed a requirement for a particular standard. Since ISO standards are voluntary, they are used to the extent that people find them useful. In cases like ISO 9000 – which is the most visible example, but not the only one – that can mean very useful indeed!

