



# ISO & road vehicles

International Standards for automotive innovation



**ISO** standards share state-of-the-art technology and good practice with the automotive sector worldwide

**ISO** standards provide benefits for manufacturers and supply chain partners; regulators and health authorities; vehicle owners and drivers, and road users including pedestrians

**ISO** standards ensure the safety, quality, efficiency, effectiveness and environmental friendliness of road vehicles

**ISO** standards improve the present by integrating road vehicles with information and communication technology infrastructures

**ISO** standards prepare for the future by developing terminology, safety and environmental requirements for new solutions to powering road vehicles





## ISO – what it is, what it achieves

ISO (International Organization for Standardization) is the world’s largest developer of voluntary International Standards providing benefits for business, government and society. ISO is a network comprising the national standards institutes of 163 countries. ISO standards make a positive contribution to the world we live in. They ensure vital features such as quality, ecology, safety, reliability, compatibility, interoperability, efficiency and effectiveness – and at an economical cost. They facilitate trade, spread knowledge, and share technological advances and good management practices.

## Why ISO standards matter

Clearly, with more than a billion estimated road vehicles in use worldwide, if the automotive sector uses state-of-the-art standards for aspects such as safety, impact on the environment, and requirements for supply chain partners, this can have an enormous impact on all three dimensions of sustainable development – social, environmental and economic.

The importance of this challenge is reflected by ISO’s response. Out of a current total of nearly 19 000 ISO International Standards for almost all sectors of business and technology, some 900 have been developed for road vehicles and related technologies.

## Who ISO standards benefit

- **For manufacturers**, ISO standards provide specifications for safety, quality, performance and environmental impact
- **For supply chains**, ISO standards provide harmonized requirements enabling outsourcing, fair competition, the participation of suppliers from developing countries – a “level playing field” – and drive down costs by facilitating competitive tendering
- **For regulators**, ISO standards provide the technical basis – regularly reviewed and improved – for legislation on aspects such as safety and pollution
- **For consumers and users**, ISO standards make it simpler and safer to drive vehicles, while protecting passengers (especially children) and pedestrians, and lower the cost of buying vehicles
- **For research and development**, ISO standards facilitate innovation and the roll-out of new technologies by providing globally harmonized terminology and consensus on health, safety, environmental, and other aspects

### ISO worldwide

Anyone who has driven a road vehicle of almost any mark, almost anywhere in the world, will have directly benefited from ISO 2575 which gives the familiar symbols for controls and indicators that we are accustomed to seeing on the dashboard.



### Kids come first

The ISOFIX attachment system makes installing child car seats to the vehicle simple and safe thanks to ISO 29061.





## How **ISO** standards work

Global values that we all share, such as safety, need to be broken down into specifics for the product or system concerned.

For example, the safety requirements for children's car seats differ from the safety requirements for refuelling cars powered by electricity or by gaseous fuels. What ISO does is develop the necessary specifications, dimensions, requirements and good practice based on input on the latest technological developments from international experts from the businesses that make up the automotive sector, along with representatives of government, science, consumers and other stakeholders.

The resulting ISO International Standards represent an international consensus on the current state of the art subject to a continual process of review and improvement.

## What **ISO** standards cover

ISO standards for the automotive industry cover all aspects: safety, ergonomics, performance, test methods, the environment, and the roll-out of innovative technologies.

The focus of much of this work is ISO technical committee ISO/TC 22, *Road vehicles*, which has so far developed more than 700 standards and updates. These range from standards addressing basics such as wheels, braking systems and road holding ability, to crash protection, child restraint systems and ergonomics. Many aim to improve compatibility, interchangeability and safety, or to provide the requirements for harmonized test procedures for evaluating performance. Its standards address road vehicles from mopeds, through cars to articulated good vehicles. Twenty-six countries participate in developing standards within the committee, with another 41 as observers. Other contributors include automotive sector associations and international bodies such as the World Health Organization.

Increasingly, road vehicles are integrated with systems and networks based on information and communication technologies with varied objectives such as safety, traffic control, navigation, fee collection and identification. Today's communications capabilities give the potential for vehicles to foresee and avoid collisions, transmit their position to emergency services in case of an accident, navigate the quickest route to their destination, make use of up-to-the-minute traffic reports, identify the nearest available parking slot, minimize their carbon emissions and provide multimedia communications. ISO/TC 204, *Intelligent transport systems*, is the principal focus in this area and has developed more than 110 standards and updates. Twenty-six countries participate with another 24 as observers.

ISO/TC 31, *Tyres, rims and valves*, has developed some 75 standards and updates. Twenty-one countries participate with another 26 as observers.

The technical specification ISO/TS 16949 has become the global benchmark for quality management by automotive suppliers. Certification of conformity to ISO/TS 16949 is often required of suppliers by the automobile manufacturers as a condition to tender for participation in global supply chains. Up to the end of December 2010, at least 43 946 ISO/TS 16949:2002 certificates, a growth of 7 %, had been issued in 84 countries and economies. The document is the work of ISO/TC 176, *Quality management and quality assurance*.

The future ISO 39001, *Road-traffic safety management systems*, being developed by ISO project committee ISO/PC 241, *Road safety management*, is widely regarded as a major contribution to the United Nations' Decade of Action for Road Safety 2011-2020.

Road safety-related standards are also developed by other ISO technical committees, for example, to make crossing the street safer for disabled persons.

## Meet WorldSID – the intelligent dummy

The ISO 15830 suite of standards provides the automotive industry with the performance specifications for the most advanced human crash test dummy for improving vehicle design and increasing passenger safety.

WorldSID (for World Side Impact Dummy), was developed to allow a single, universally accepted test device to be used for side impact testing meeting regulations worldwide.





## ISO and the future – now

ISO standards now under development address alternative power systems promising less pollution and therefore contributing to the fight against climate change. These include standards for electrically propelled vehicles and vehicles powered by gaseous fuels, as well as for the infrastructures necessary to support them.

To prepare the future of road vehicles, ISO works closely with its partners of the World Standards Cooperation (WSC) – the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU). For example, in March 2012 at the Geneva International Motor Show, Switzerland, the three organizations will host the seventh edition of the Fully Networked Car workshop on the car of the future and the ITS needed to support it.



## ISO Resources

**ISO's Website** (in English and French, with top levels in Russian and individual publications in other languages)

[www.iso.org](http://www.iso.org)

**ISO Focus+ magazine**

(10 editions annually in English and French)

[www.iso.org/iso/iso-focus-plus](http://www.iso.org/iso/iso-focus-plus)

**ISO videos**

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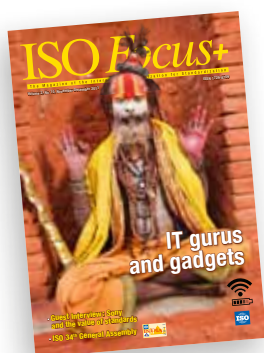
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