

Subject: ISO safety standard to protect users of all types of machinery

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Gary

ISO safety standard to protect users of all types of machinery

The new ISO 14121-1 standard on risk assessment for machinery will help designers and manufacturers reduce associated safety hazards.

Whether you are pouring concrete, mowing the lawn or working on a lathe, machine operation can result in serious injury. Studies show that the cost of a single accident to the individual and to society can be as high as USD 1 million, not to mention the pain and inconvenience experienced by the affected persons.

The use of machinery is key to the development of any country. However, accidents occur wherever these are used, be it in professional, domestic or leisure contexts. Inadequate holding devices in lifting machines, for instance, can result in the crushing of an individual, or loud noises produce hearing loss.

These accidents can involve several people at a time, as in a train crash, or be confined to a nonetheless potentially serious incident around the house. As a result, individuals can suffer irreversible damage or even death. Society might have to nurse and support the affected person and his family. If at the workplace, the employer might need to replace a costly machine and cover medical expenses, resulting in significant economic loss.

With the new ISO 14121-1:2007, Safety of machinery – Risk assessment – Part 1: Principles, manufacturers will be able to identify risks during the design stage of production and hence prevent future accidents. The risk assessment guidelines provided in the standard are presented as a series of logical steps. These will help designers to systematically determine the limits of the machinery; identify risks of hazards like radiation, burning or electrocution; and estimate potential dangers ranging from machine failure to human error.

The information obtained through this process will allow producers to determine whether a machine is adequately safe or not. In the eventual case that the machine is not found to be adequately safe, this information will be valuable for the subsequent risk reduction stage. The process would then be repeated until the machine is established as adequately safe for use. This new standard could save millions of dollars in compensation and lost production.

Moreover, there are currently a myriad of national safety legislations that oblige manufacturers to comply with a variety of diverging requirements. The widespread adoption of this International Standard based on consensus could therefore facilitate international trade, while improving occupational health and safety.

ISO 14121-1 will also form a basis for the development of further standards dealing with specific safety aspects or safeguards, or for more detailed safety requirements in particular machines. The second part of ISO 14121 is currently under preparation, ISO/PRF TR 14121-2, Safety of machinery – Risk assessment – Part 2: Practical guidance and

examples of methods.

ISO 14121-1 was developed by ISO/TC 199, Safety of machinery, which works together with industry, health and safety bodies, authorities, unions, employer's associations and international organizations such as the International Labour Organization (ILO) and the World Health Organization (WHO) to develop standards that reduce the risks of injury from machinery at home, work and during leisure activities.

ISO 14121-1:2007, Safety of machinery – Risk assessment – Part 1: Principles, costs 114 Swiss francs and is available from ISO national member institutes (see [complete list](#) (http://www.iso.org/iso/about/iso_members.htm) with contact details) and from the ISO Central Secretariat.

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