Defense Technology

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Inspire trust.

Product Safety and Quality Management Systems Standards

Part 3/3

In addition to meeting the requirements of one or more defense-related standards, defense technologies may also be subject to other requirements. As with all products, providing assurances regarding the safety of defense technologies is of paramount importance.

There are hundreds of individual product safety standards applicable to various types of electrical and electronic systems and devices, and individual product safety standards applicable to a given technology depend on the nature of the technology and its intended use.

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Product Safety Standards

Product safety standards generally address one or more of the following safety-related considerations:

Electrical Safety

Which includes design or component issues that can result in electrical failure and lead to electric shock, fire, or explosion.

Chemical Safety

Which covers design and material aspects that could expose the device user to potentially harmful chemicals.

Mechanical Safety

Such as the ability of a device to withstand physical breakdown or failure linked to vibration, load handling, sudden shock associated with dropping the device, or other causes.

Risk Management

Which includes all other potential safety aspects of a product not covered by other safety aspects.

User Safety

Which includes ergonomic and interface design issues that could confuse the device user and lead to device misuse.

Quality management systems standards

Effectively maintaining quality throughout the complex process of developing and manufacturing advanced defense technologies can benefit from adopting a quality management system (QMS) consistent with the requirements of one or more of the following standards:

ISO 9001

Quality management systems - Requirements

ISO 9001 is the internationally recognized and accepted standard that details the requirements for the implementation, oversight, and maintenance of a QMS within an organization. The standard takes a risk-based approach to quality management, employing the Plan-Do-Check-Act (PDCA) framework. By focusing on results, ISO 9001 helps foster a continuous improvement approach to quality management.

ISO 14001

Environmental management systems - Requirements with guidance for use

ISO 14001 specifies the requirements for an environmental management system. Organizations of all types can use the framework and requirements presented in the standard to coordinate and manage their environmental and sustainability objectives, and to fulfill their environmental compliance obligations to their customers.

IATF 16949

Quality management systems-Particular requirements for the application of ISO 9001 for automotive production and relevant service part organizations

IATF 16949 was developed by the International Automotive Task Force (IATF) to harmonize quality management assessment and certification of automotive supply chain partners. The standard offers a common set of techniques and methods for product and process development and improvement in the automotive industry.

AS 9100

Quality management systems - Requirements for aviation, space and defense organizations

Developed by the International Aerospace Quality Group (IAQG) of the Society of Automotive Engineers (SAE), AS9100 provides the defense, aviation, and space industries with specialized requirements for the deployment of an effective QMS. Based on ISO 9001, AS9100 includes additional requirements to address the unique management system aspects of defense-related entities.

AS 9120

Quality management systems requirements for aviation, space and defense distributors

Similar in approach to AS9100, AS9120 focuses on QMS issues specific to distribution and supply chain partners in the defense industry.

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