NORMS AND STANDARDS

Norms

DIN EN ISO 9001 (9001:2008) cross-industry

Minimum quality management system requirements that an organization must meet in order to provide products and services to fulfill customer expectations as well as regulatory requirements. kumkeo GmbH was successfully certified in accordance with DIN EN ISO 9001:2008 on 28 July 2015.

DIN EN ISO 9004 cross-industry

Guidelines that assess the effectiveness and efficiency of a quality management system

DIN EN/IEC 61508 cross-industry

International norm for the development of electrical, electronic and programmable electronic (E/E/PE) systems that perform a safety function (the failure of which would present considerable risk to people or the environment). Defines safety integrity levels SIL 1 to SIL 4 to measure the necessary or achieved risk-minimizing effectiveness of the safety functions

DIN IEC 62061 cross-industry

Sector-specific norm within IEC 61508. Describes the requirements for realizing safety-relevant electrical control systems for machines. Applies to hardware and software. Implemented as VDE 0803.

DIN EN ISO 13849 cross-industry

Safety requirements for the design and integration of security-related components to control machinery, including software development. Applies to all types of machines irrespective of the technology used (e.g. electrical, hydraulic, mechanical). Applies to simple machines as well as complex production facilities.

DIN EN ISO/IEC 17025 cross-industry

General requirements for the competence of testing and calibration laboratories.

ISO 26262 automotive industry

ISO standard for safety relevant electrical/electronic systems in automobiles. Compliance with this standard is designed to ensure the functional safety of a system with automotive electrical/electronic components.

ISO/IEC 15408 semiconductor industry

General criteria to assess the security of information technology. International standard for assessing and evaluating the security features of IT products. The sections cover three topics: Information technology, Security techniques and Evaluation criteria for IT security. The goal of an evaluation is to confirm that the security functionality claimed by the manufacturer is truly effective. Since security performance can be rendered ineffective by the exploitability of existing weaknesses, analyzing these weaknesses is a primary goal of all aspects of the evaluation.

DIN ISO/IEC 14443 semiconductor industry

Series of international standards for contactless chip cards (used in identification, access control and payment systems). Requirements for the physical and data-technical characteristics of the transmission path between the reading device and contactless chip card.

ISO/IEC 7816 semiconductor industry

International standard from the International Organization for Standardization and the International Electrotechnical Communication consisting of several parts that standardizes the main characteristics of chip cards. It is the extension of ISO 7810, which specifies the most important physical characteristics of identification cards.

DO-178C Aviation industry

Guidelines to manage software development processes which impact the safe operation of aircraft. (Software Considerations in Airborne Systems and Equipment Certification)

DO-254 Aviation industry

Guidelines to manage hardware development processes which impact the safe operation of aircraft. Defines software assurance levels in aviation DAL A-E (Design Assurance Level), which depend on the potential impact a software failure would have on the aircraft. (Design Assurance Guidance For Airborne Electronic Hardware)

DO-160G aviation industry

Guidelines for environmental assessments and testing procedures in conjunction with aeronautical hardware.

ECSS space industry

The standards published by the European Cooperation for Space Standardization cover all aspects of space projects including project management, product assurance and engineering. Currently, there are 124 active standards.

DIN EN ISO 13485 medical technologies

Detailed requirements regarding topics related to the manufacture and marketing of medical products.

DIN EN 60601 medical technologies

Applies for the basic safety and essential performance features of medical electrical equipment systems with exactly one connection to a distribution network which are used to diagnose, treat or monitor a patient in line with manufacturer specifications. Specifies general requirements for the safety including essential performance features of medical electrical devices. Implemented in VDE 0750.

AQAP-2110/2210/2310 defense industry

Special quality regulations for the defense technology sector (Allied Quality Assurance Publications), NATO-specific supplement to DIN EN ISO 9001:2008:

- AQAP 2009: NATO guidance on the use of the AQAP 2000 series
- AQAP 2110: Quality assurance requirements for development
- AQAP 2210: Supplement requirements to quality assurance in software development, maintenance and servicing
- AQAP-2310: NATO quality management system requirements for contractors in the fields of aviation, aeronautics and armaments. These requirements are based on AS/EN 9100:2009.

Standards

RoHS (EU Directive 2011/65/EU) cross-industry

Restricts the use of certain hazardous materials in electrical and electronic devices. These guidelines regulate the use and introduction of hazardous materials in electrical devices and electronic components. The directive is referred to as RoHS 2 (English: Restriction of Hazardous Substances, German: "Beschränkung (der Verwendung bestimmter) gefährlicher Stoffe"). The ElektroStoffV (Elektro- und Elektronikgeräte-Stoff-Verordnung) introduced the RoHS directive into German law on 9 March 2013.