# Quality Management
INVENSITY Center of Excellence Systems Engineering

Background

Quality creates confidence. This is particularly true when the quality of products over a longer period is maintained at a constant level or is even increased continuously. Because this is the only way for customers to make predictions about the quality of future products to be acquired. By a continuous level of quality, companies then provide reliability, creating trusting relationships. A quality management can help companies meet these challenges and to deliver as high quality products that meet customer expectations.
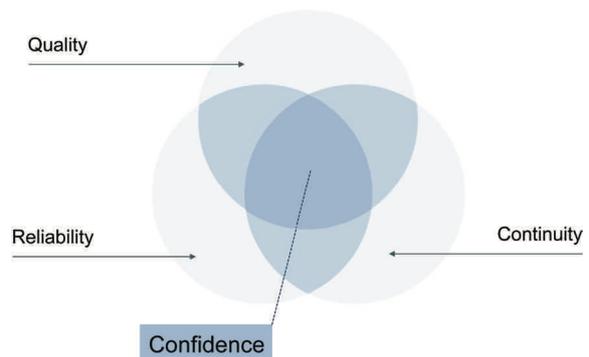

Norms define a subjective quality-term

If a customer buys in a product or service and these product or service meets their needs, they have in common usage a „good quality". By different people, however, very different expectations of a product or service are provided. Accordingly, no product can exist with absolute quality. This subjective, customer-focused understanding of quality can be detected only with great difficulty, since it can vary greatly individually.

Since the understanding of quality is customer related mostly very subjective norms, define the concept of quality standards. According to the ISO 9000 series quality is defined as: degree to which a set of inherent characteristics fulfills requirements. The concept of quality thus indicates how far a system with its features corresponds to the expectations and requirements.

Therefore its necessary for companies, to align their activities on customer needs (customer orientation). In addition, companies need today, much more than before, to make sure that the correct quality is produced to meet the expectations and requirements of the customer. ISO 9000 quality management involves all parties influencing the quality of the product. Due to the process orientation, the processes are more visible and can be continuously improved.
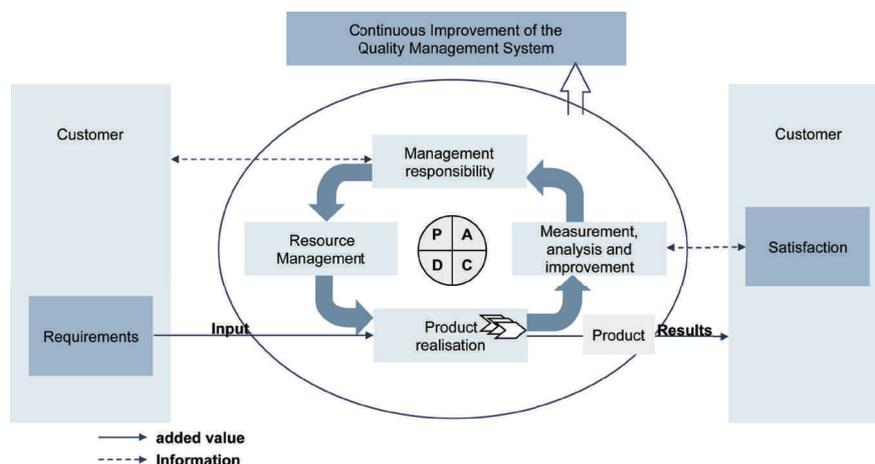
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An ISO 9001 certification confirms the introduction of the quality orientation in a company. Therefore the ISO 9001 requirements are assessed if they are implemented in the company.

In addition to a quality management system, which applies to a company as a whole, there are other norms and standards for certain areas of a company. These provide a more detailed view e.g. on quality management in a development organization.

Quality management for development organisations

Few companies can offer their customers the same product portfolio permanently. Rather, especially in the technology sector innovative products that can withstand the global competition are demanded. Development processes from concept to production-ready product will therefore go through in ever shorter periods of time. This makes it necessary to assess the quality of development processes to ensure product quality. The quality assurance as part of quality management in development organizations thus has an immense contribution to high quality products.

The enormous importance of quality assurance (QA) is also reflected in the fact that it is an inherent part of process-oriented development, as proposed by Automotive SPICE and CMMI and lived by the world's leading technology companies.

In a process-oriented development, the continuous measurement of quality, according to the QA strategy, allows you to control the quality of the processes and the product and therefore meet the high demands and expectations of customers.

Essential component of any QA strategy is to define measurable quality objectives. These make the abstract concept of quality more feasible.
The important point is the definition of appropriate metrics to demonstrate the achievement of objectives through indicators.

An independent quality assurance department in your development organisation, thus contributes to a customer confidence in both your products and your company to trust as a long-term partner.
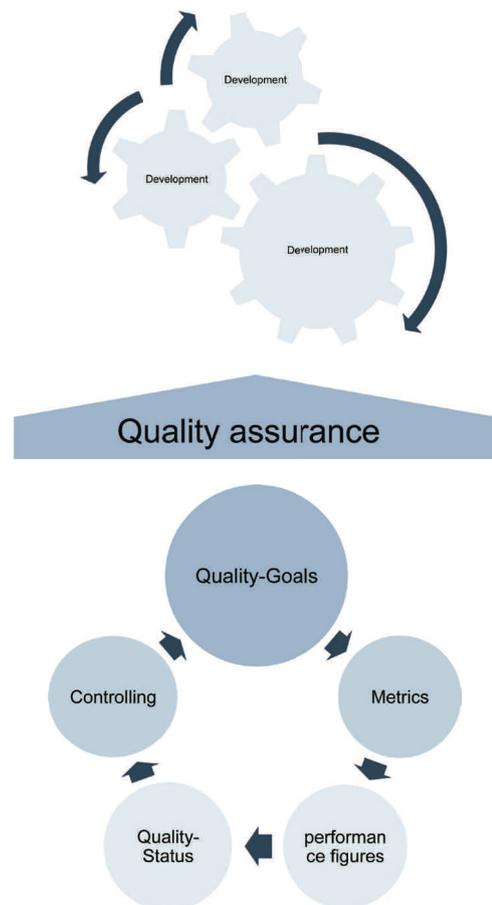
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