QUALITY EXCELLENCE

Handling deviations through effective problem solving





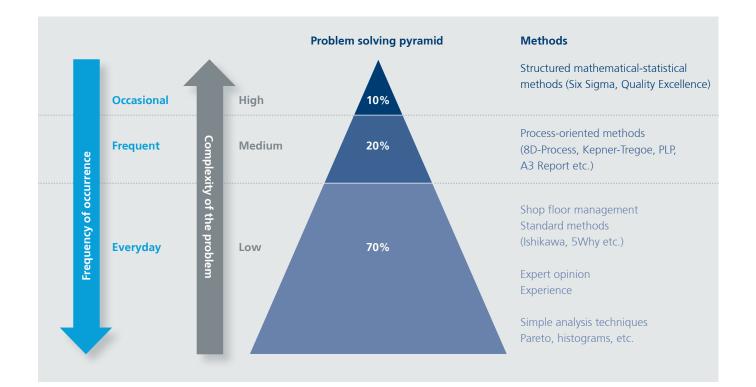


Your Partner on the way to Top-Performance

THE RIGHT APPROACH.

Problem solving as part of our Quality Excellence approach focuses on the rapid identification of causes for quality deviations.

Depending on the complexity of the problem, these are addressed with specific methods.



APPROACH.

NARROWING THE FOCUS	 Recognise the signature of the problem: Data analysis and verification of the measurement system Recognise relevant and eliminate irrelevant parameters Establish and categorise an effective problem variable Develop a suitable problem solving strategy
	Identification of the main influencing factors:>>Understanding of the mechanism leading to the error>Structured, fact-based exclusion process for potential causes>Limit causes to the main influencing variables
	 From suspicion to certainty: Clarification of the physical cause-effect principle Statistical confirmation of the main influencing variable Control of the problem by controlling the main influencing variable
SOLUTION	 From cause to solution: Rapid response to problems Risk classification of existing field products Prevention of re-occurrence

THE SPHERES OF ACTIVITY FOR PROBLEM SOLVING WITHIN THE PRODUCT LIFECYCLE.

Development Errors occurring during the validation phase of a product	ProductionField useRejection rates during the production of a productAccumulation of errors in the field
DEVELOPMENT	 Problems can occur when validating a product, which pose challenges for the development department. In particular, the requirements for a high proportion of common parts (modularity) across a wide range of products often result in complex errors. These spheres of activity are the focus of the validation phase: The product does not meet the requirements in terms of service life The product does not meet the requirements in terms of performance
PRODUCTION	During the manufacture of a product, low rejection rates are not unusual. Unstable proces- ses and stricter tolerance requirements can quickly become a problem however. Rework or overtime are required to achieve the target output with the required quality. The start of production is a phase with a particularly high risk. These spheres of activity are the focus of the production phase: > Rejection rates during production > Start-up problems
FIELD USE	Product faults that a customer only becomes aware of during use are particularly critical. In addition to high replacement or repair costs, this involves a threat of damage to the compa- ny's reputation. Rapid identification of the cause and implementation of the solution are key to counteracting further damage. These spheres of activity are the focus in event of acute problems in the field: > Total failure of a product during customer use > Malfunctions that limit customer use

- > Malfunctions that limit customer use
- > Inadequate fulfilment of customer requirements

ADVANTAGES OF **QUALITY EXCELLENCE** PROBLEM SOLVING APROACH

- 1. More effective resource allocation by focusing on main problem areas
- 2. Rapid identification of causes using targeted use of methods
- 3. Determination of long-term countermeasures based on the causes identified
- 4. Continuous quality improvement through problem solving expertise
- 5. Limitation of costs and assurance of deadlines through quick response

OUR QUALITY EXCELLENCE MODEL OFFERS EFFECTIVE PROBLEM SOLVING FOR COMPLEX QUALITY PROBLEMS.

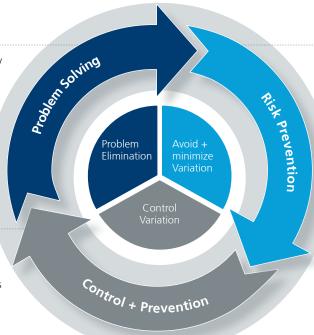
PROBLEM SOLVING

- > Rapid and effective reaction to acute quality problems that interfere with an efficient value creation chain
- > Identification of the main cause rather than dealing with the symptoms

CONTROL + PREVENTION

 Managing risks - full awareness of product and process variations at all times
 Proactive problem avoidance thanks to

 Proactive problem avoidance thanks to control and identification of negative trends



RISK PREVENTION

- Assessment of potential internal and external product and process risks
- > Reduction of product and process development times

QUALITY STRATEGY

- Suitable quality system for the sustainable support of the business strategy
- Establishment and further development of a problem solving culture
- Quality control instead of mere quality assessment

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