



## Teamcenter Quality Problem Solving

### Managing defects centrally from the design phase through use of the product in the field

#### Benefits

- Continuously improve products and production processes
- Reduce failure costs by eliminating rework on repeated quality issues
- Leverage a common cross-industry problem solving process with configurability for specific industries

#### Features

- Central quality issue management to capture and route issues from internal sources, suppliers or customers
- Quality issue evaluation with symptom description and handover to problem-solving process
- Multidimensional root cause analysis utilizing commonly known methods
- Connection to ERP systems
- Workflow-guided, standardized problem-solving process
- Integrated quality issue, problem solving and change process flow
- Both-sided traceability on problem parts

#### Summary

The Teamcenter® Quality product family offers an enterprise-wide solution for capturing various forms of quality issues, customer complaints and nonconformances. It provides a formal process to systematically investigate, analyze and resolve quality issues, streamlines the definition of measures to prevent recurrences and reports the results in a clear and intuitive manner.

#### Continuously improve product and process quality

Companies are challenged to reduce product and operating costs while improving product quality to distinguish their products and gain a competitive advantage. Every effort must be made to improve efficiencies among teams that may be distributed across the globe. The Teamcenter Quality offering provides a problem-solving solution built on an enterprise-scalable foundation for identifying, analyzing and sharing critical product quality data across your enterprise. Now your design, manufacturing and quality management teams can share the same views of the information they need to continuously improve quality.

Teamcenter Quality - Problem Solving software provides the ability to administer quality issues, nonconformances and customer complaints with methods to resolve these issues and make more informed decisions across a global enterprise with the aim to reduce the cost of quality. Built on the Teamcenter collaboration platform, Problem Solving can elaborate on the full spectrum of an entire project including product design, production processes, project plans, documents, materials, facilities and equipment.

This broad information enables you to find and validate root causes faster without the delays of searching different systems for critical data or the additional risk that can be introduced through manual processes. Problem Solving leverages the quality action management capabilities of the Teamcenter Quality product family. Ad-hoc creation of containment, corrective and preventive actions, guided with automated workflows, streamlines the effort of communicating and managing your problem-solving process. Correlating issues to deliverables and guiding the root cause analysis with a common failure catalog improves the consistency of execution across the extended enterprise. This capability closes the loop between issue capture and final resolution.

# Teamcenter Quality Problem Solving

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**Features continued**

- Supports working in Ishikawa and 5Why diagrams
- Efficient handling of attachments and images
- Graphical representations of images and method diagrams within the report

**Problem-solving following a systematic approach**

The problem-solving process for resolution of a quality issue, nonconformance or customer complaint follows a systematic approach that can be shaped to cover eight disciplines (8D) principles or CAPA:

- Team handling, process ownership, approval levels
- Problem description based on all existing information in the system
- Multidimensional root cause analysis leveraging several methods or retrieving information from the intelligent failure catalog
- Containment, corrective and preventive actions are managed in different steps with effectiveness checks re-using the built-in quality action management capability with due date monitoring and automatic escalation
- Workflows used for process information, review, escalation or approval

When problem-solving activities result in engineering or manufacturing change requests, each change is managed and documented through formal workflows that maintain the associativity of the entire problem-solving process starting

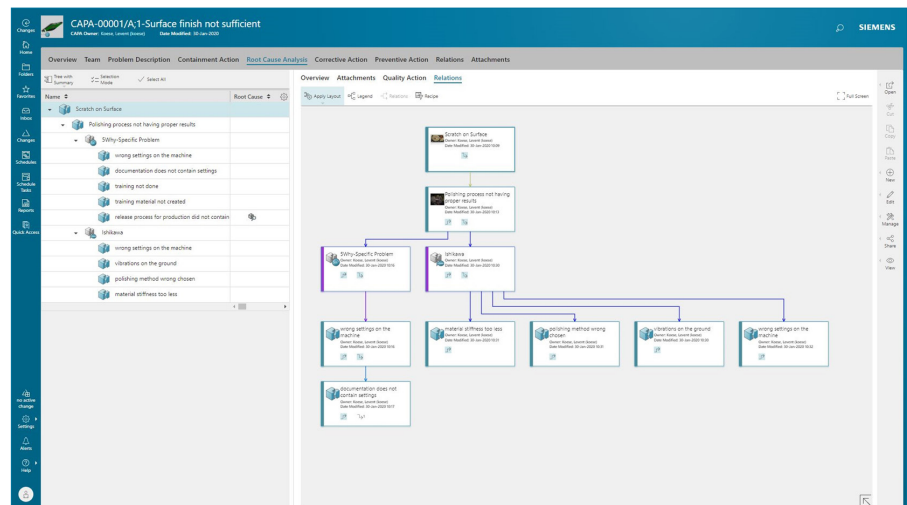
with the issue capture. This assures complete documentation throughout the entire process and supports your ability to review investigations using consistent processes.

**Multidimensional root cause analysis including 5 Why and Ishikawa methods**

The Problem Solving capability contains a root cause analysis section to record defects and build up a tree of causes to break down the reported defect into its components to identify the different types of root causes for multiple analysis dimensions.

The root cause analysis section now contains an interactive graphical user interface to get a broad overview of the analysis. The user can drill down into the analysis and decide on the root cause that can be flagged in the same view.

The user can employ the 5 Why method in the root cause analysis section to search for the root cause in a guided why. The Problem Solving module guides the user through the chain of causes while having the stair view open and updated. The user can continuously display the overview of the complete chain but can also work on the next why question.



Defect tree in the root cause analysis section of a problem-solving process.

Having created the first draft of a 5 Why chain in a quick and brainstorming type of approach, the user can now elaborate on each why question, populating it with additional data, file attachments and failure code assignments. The user can add quality actions to investigate and validate the respective defect/why.

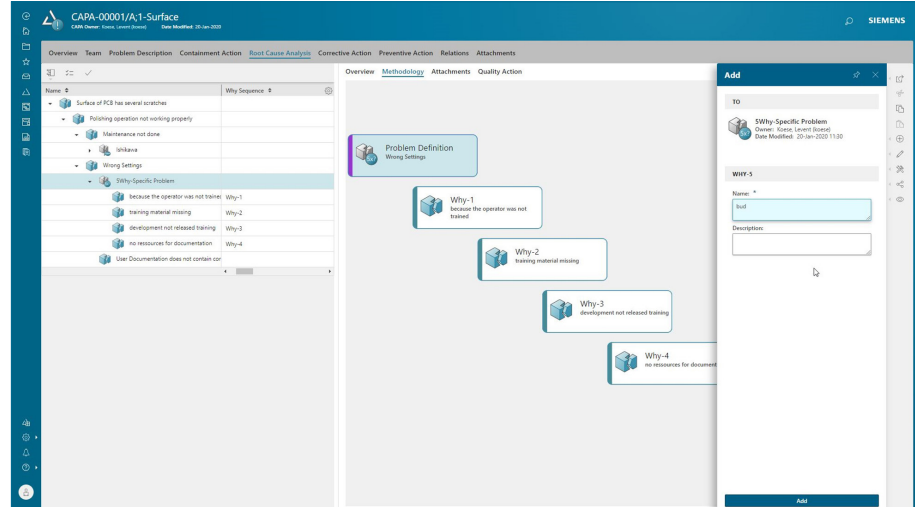
The why object is a self-contained defect instance in the system to retrieve the most out of the analysis and keep its knowledge reproduceable.

The investigator in the problem-solving team can now analyze a defect using the Ishikawa method. The Ishikawa method contains predefined cause groups (man, machine, material, etc.), but the user is able to modify, add or delete if required and allowed by company rules.

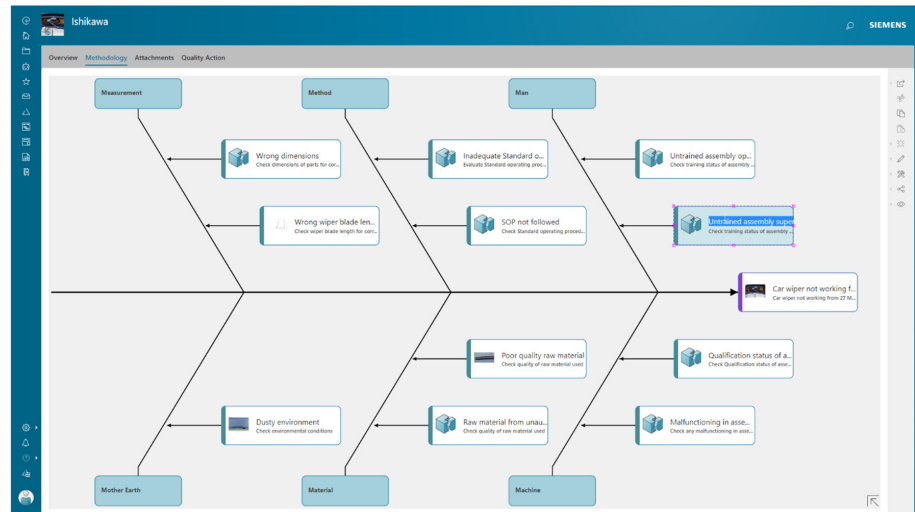
The problem-solving module also allows a quick method of typing in several thoughts in a brainstorming approach. Then the user can modify and elaborate on causes, which are also self-contained defect instances in the system.

The enhanced Ishikawa graph view allows you to directly author the Ishikawa method within the graphical view. The cause groups are editable while in graph view. You can work in the Ishikawa diagram, adding defects under a cause group while having an overview of all causes and mark causes as the root cause. The edit mode allows you to edit all causes directly by selecting the respective cause description.

You can collect all possible causes within the commonly known fishbone view in a quick and easy way, elaborate on the causes on a high-level ideation approach and edit the causes, but still have all the benefits of the defect data structures in the background for adding attachments and relating to failure catalog elements.



Using 5 Why method in the root cause analysis section.



Editing a cause description in the Ishikawa diagram.

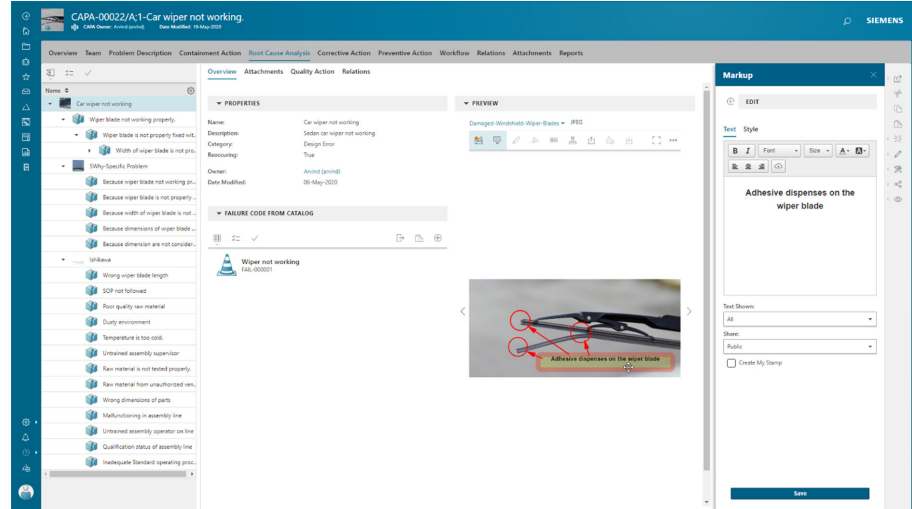
## Efficient handling of attachments, images and reports

A problem-solving process contains several steps with attachments that are relevant for the overall view. Instead of traversing through all steps checking for attachments availability and content, with Problem Solving it is possible to check the attachments tab in the problem-solving process and see all attachments with their respective locations.

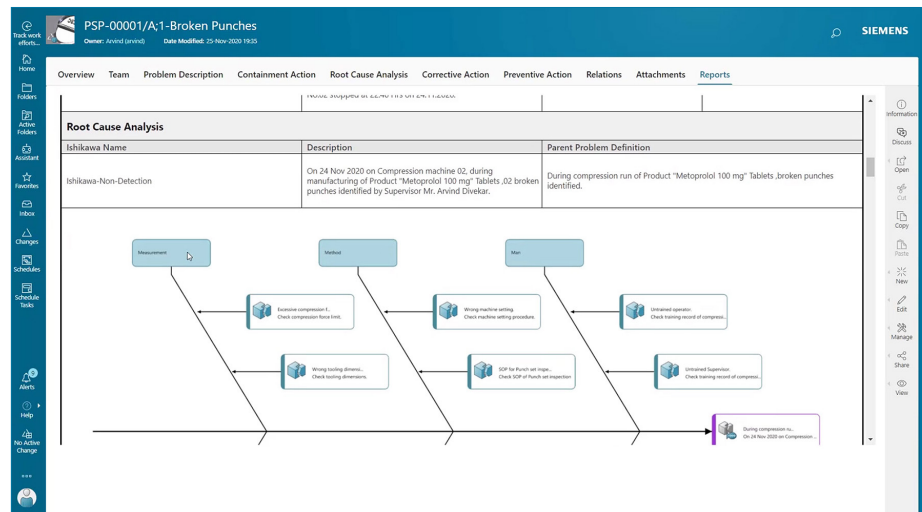
The preview picture in a problem-solving process can be chosen as appropriate in the overview tab. The user can mark up the preview picture and add comments. All Teamcenter markup functionalities are exposed, allowing you to mark pictures, documents or other attachments of a defect or problem-solving process.

Those pictures with markups as well as the graphical view of the 5 Why or the Ishikawa method are visible in the problem-solving report. The layout of the report is configurable to allow adjustment to your company's report templates.

Teamcenter Quality - Problem Solving can be used to extend all Teamcenter Active Workspace capabilities with a problem-solving process. Integration with the Teamcenter Quality product family feeding back into an FMEA or having a common change management enables companies to realize the greatest benefit from the continuous improvement process.



Mark up image attachments of defects.



Print reports with images and graphical root cause analysis.