BABTEC

The Software for Quality

Babtec.FMEA
Detecting Errors Before They Occur

You can prevent failures before they occur. The Failure Mode and Effects Analysis (FMEA) follows the principle of identifying failure potentials as early as the product development process through the assessment of possible risks. By planning suitable actions at an early time, failure causes can be prevented effectively. In the process of product development and advance quality planning, FMEA is an effective instrument to lay the foundation for the quality of your products. Use FMEA to increase the technical reliability and to reduce failure costs that may occur at a later time.

Product and Process Analysis

As an **integrated solution**, Babtec.FMEA supports you in conducting and documenting **standards-compliant** Design and Process FMEA. The established procedure, when creating a FMEA in the Babtec software, of course, you apply the systematic and structured approach that is recommended by the two major automotive assosiations AIAG and VDA and which has also established itself in other industries. Access clearly-arranged tree structures to perform complex **structure, function** and **failure analyses**. During the structure analysis, you describe the system to be covered for your product and/or the corresponding process. Document all required functions and product or process features – for every system element and every process step.

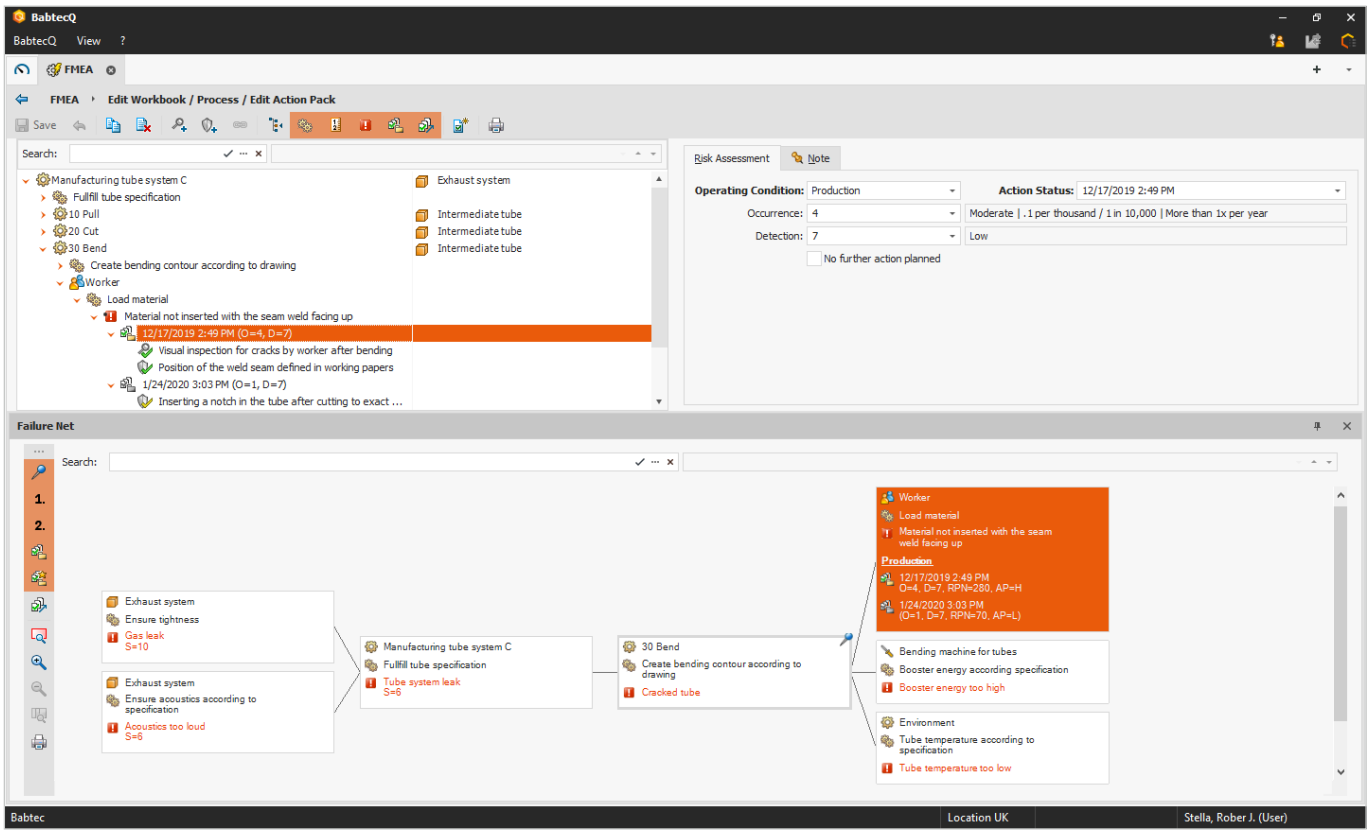
Define **dependencies** between the required functions in the **function tree** – simply and intuitively via drag & drop. Identify and document possible failure modes and identify failure cause, failure and failure effect in the same way based on cause-effect relationships in the **failure tree**. If the product as well as the process FMEA are created for a project, you can even access failure modes of the respective FMEA. With the available search and filter functions, you always find what you are looking for. The implemented free-text support allows you highest **flexibility** for mapping system or process structures.

For the complete documentation of specifications and requirements, you can save image documents as well as link external files for every FMEA. For every element of an FMEA, it is possible to save additional information in form of notes. This will always provide immediate access to **all the relevant information** for your workshops and risk assessments.

The 7 Steps for the Preparation of the FMEA

You can use Babtec.FMEA during your team sessions as the perfect communication tool: the simple and established **form view**, which is always available **context-based** for each failure and at all times by clicking on a button, allows you an improved coordination in the team, e.g. during the creation of prevention and detection controls for identified failure causes. On top of that, convince your customers with sound reports for the presentation of your FMEA results.

With the dynamic Babtec.RPT report designer, supplied **reports and forms** can be flexibly adapted to company-specific requirements. You decide which information will be published and forward only as much know-how to your customers and partners about your products and processes as required.



Structure and Failure Net of a Process FMEA

During the entry of all FMEA data, you can check at any time whether the saved information is complete and plausible. Detected warnings and failures are compiled in an overview, a mouse-click leads you directly to the corresponding location in the FMEA to correct the saved information.

Higher Efficiency with Base FMEA

Improve your efficiency and create base FMEAs to reference recurring partial systems and processes. For example, if you want to assess processes that are relevant to the manufacturing of various products, but are not defined by product-specific properties, you can manage and assess them in a single base FMEA. In this case, you merely **reference** the applicable base FMEA in any respective product-specific FMEAs. All specific elements as well as those referenced are supplied within the FMEA.

Your benefit: you document assessments and process optimizations only in the base FMEA. With the **integrated change management** from Babtec.FMEA, the relevance of the linked product-specific FMEA is always guaranteed. A quick access to the base or product-specific FMEA is ensured at all times.

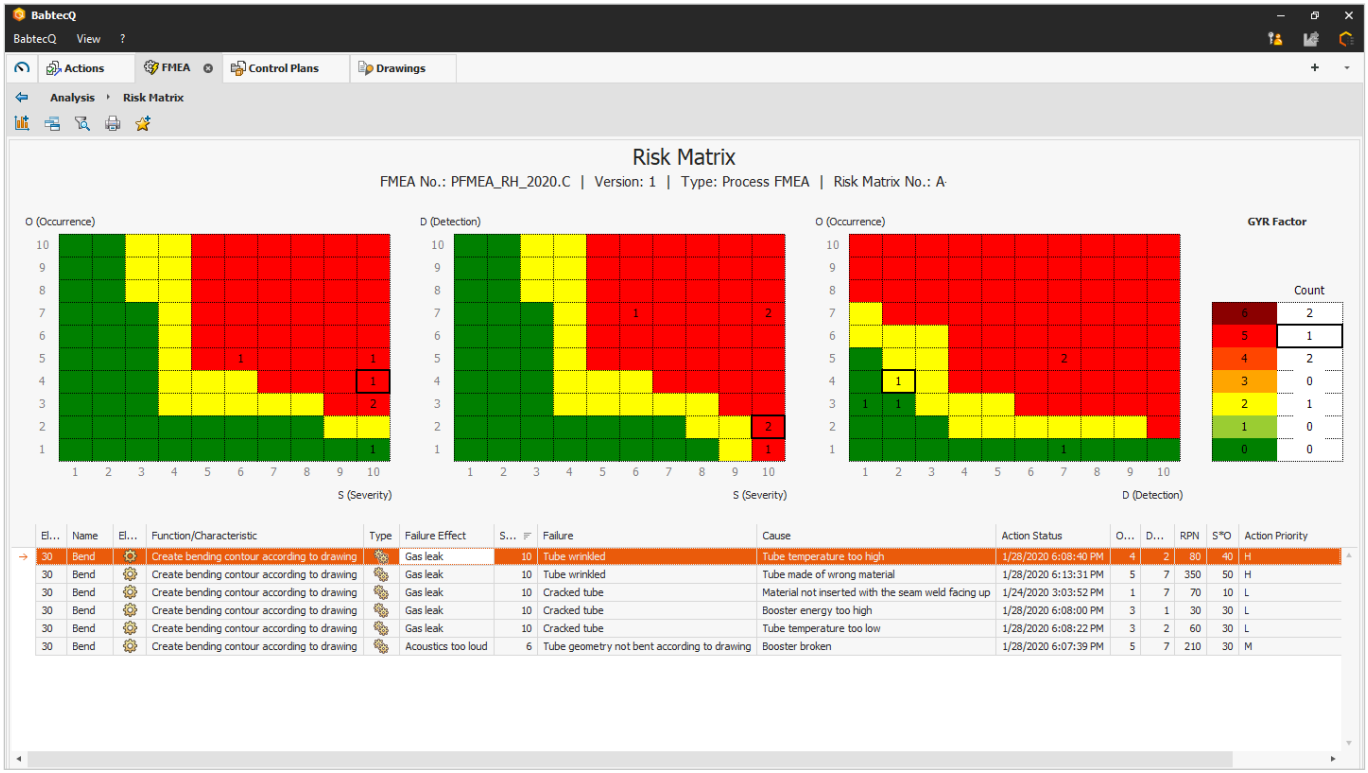
Risk Analysis

The structure, function and failure analysis is followed by the analysis and assessment of identified risks. Define separate **warning thresholds** for severity (S), occurence (O) and detection probability (D). If these warning thresholds are exceeded, the integrated warning system in the FMEA form takes action and the determined **risk focal** points are identified. If all possible risks are identified, the automatically dertermined risk priority number (RPN) or action priority (AP) will help you to find out, where is a need for actions to reduce risk more urgent. Use this methods and information for proper prioritization the identified risks in order to be targeted and timely initiated effective optimization actions.

For the risk assessment standard-compliant criteria are available to evaluate S, O and D. Also the AP is determined in accordance with the assessment matrix of the FMEA manual (AIAG/VDA). On this basis, define your own evaluation schemes, including the description of known examples that are tailored to your products and processes. That enables an objective and realistic assessment of the risks. Use this information and the assessment methods to **prioritize** in your search for additional optimization actions in order to successfully minimize risks.

Besides the supplied standards-compliant risk assessment catalogs (VDA, AIAG) for the severity of the failure, the occurrence and the detection probability, additional specific risk assessment catalogs can be managed and employed.

Define your own risk assessment schemes that are matched to your products and processes, thereby allowing an objective and realistic assessment of the risks. This creates the best possible foundation for establishing **effective actions** and avoiding possible failures and failure causes in the product manufacturing process.



Risk assessment and prioritization of the need for action to minimize risk

Action Management

With the risk analysis, you assess the risks initially based on the current **prevention and detection controls**. During the optimization phase, you can reduce existing risks through additional actions and continually perform reassessments. For every developed action, you decide in a team whether it can actually be implemented or has to be discarded. All actions to be implemented are finally adopted in the central action management (Babtec.MM) for processing and tracking.

The initiated actions for the detection of failures and the prevention of failure causes can be tracked in Babtec.FMEA as well as in the action management module.

Is for the successful implementation of a planned optimization action paricipation or responsibility by a business partner (e.g. supplier or technology partner) required, you can share the planned actions on the Qube platform and working together with these responsible persons on the optimization (www.babtecqube.com). For the detailed planning of an action, you define all the required tasks, including responsibilities and deadlines. Easy and quick access to **personal tasks** and **dates** is ensured by to-do-lists that can be filtered. Babtec.Q.Agent automatically informs responsible employees about tasks and dates via e-mail.

With the help of the intranet, you can easily involve all the required employees in the process of actions and task management. In the company-wide Q.Manager **information portal**, you can also process tasks without direct access to BabtecQ and report back the results. All documented results and information for the **effectiveness** of initiated actions are directly available in the FMEA and can be used for new assessments.

Change and Information Management

As an **active CAQ system**, BabtecQ automatically and regularly informs you about events that are relevant to FMEAs with the help of Babtec.Q.Agent. For example, you will be informed about all incoming complaints or initiated actions that are essential for the risk analysis or the planning of relevant inspection steps. Use the **information potential** of customer complaints and adopt the experiences and actions directly into your FMEA.

The integrated **version management** ensures the traceability of released FMEA versions in case of changes. You can also profit from the ability to create control plans or production control plans directly based on process FMEAs using Babtec.CP. Control plans are created directly out of the process description and contain all the inspection-relevant product and process characteristics. With the linking of FMEAs, control plans and even inspection plans, the integrated change management provides you with convenient support for required changes to these documents – without elaborate and failure-prone data comparison.

Babtec.FMEA
At a Glance

- Integrated solution for creating standards-compliant product and process FMEA (VDA, AIAG)
- Support of the 7 steps in creating an FMEA
- Team-oriented processing with responsibilities
- Clearly-arranged representation of system and process in structure, function and failure trees
- Intuitive drag & drop functions for the structure, function and failure analysis
- Flexible free-text support for mapping system or process structures
- Interactive tree, net an form views
- Convenient search and filter functions
- Documentation of additional information via notes, documents and images (Babtec.VP)
- Definition, processing and tracking of preventive and detection actions to minimize risks, assessment of effectiveness of implemented actions (Babtec.MM)
- Risk analysis taken into account the serverity (S) of the effects, the occurence (O) and the detection (D) of causes and failures
- Prioritization of the need for action to minimize risk based on the risk priority number (RPN), the action priority (AP) or with the 3D traffic light factor in risk matrices
- Management and use of standards-compliant (VDA. AIAG) and company-specific evaluation catalogs, including the description of company-specific examples to specify the evaluation criteria
- Support of the risk assessment via an integrated warning system, incl. warning thresholds for RPN, severity, occurrence and detection probability
- Management and use of standards-compliant (VDA, AIAG) and company-specific risk assessment catalogs
- Automatic review for completeness and data consistency
- Integrated version management for traceability of changes
- Extensive copy functions
- Creation of base FMEA for reduction of efforts
- Link of product-specific FMEA with base FMEA for referencing to system/process elements, functions, failure modes and actions, incl. automatic update in case of changes
- FMEA form sheets according to current guidelines (VDA, AIAG)
- Design of company-specific forms and reports (Babtec.RPT)
- Flexible management analysis:
  > Difference analysis for risk assessment
  > Key performance indicators

- Convenient integration of FMEA, control plans and inspection plans, incl. change management

- Integration in BabtecQ (Babtec.APQP, Babtec.MM, Babtec.AM, Babtec.REK, Babtec.CP, Babtec.WEP/WAP, Babtec.FP)

- Automatic distribution of information – communication and reporting via Babtec.Q.Agent (e.g. schedule tracking of new actions)

- Joint processing of optimization actions and tasks with business partners at the cloud-based Qube platform (www.babtecqube.com)

- Support the continuous improvement process, a.o. by considering failures from complaints during further development of FMEAs

Let Us Advise You

Individual Consulting

We would be happy to introduce you to the module in a personal appointment in which we can show you how our solution can optimize your processes. In doing so, we record the current status and explain the further procedure.

Make an appointment

Our Solutions

Are you interested in further modules that support your processes even better? Just have a look around on our website.

To the website

Overview of Our Portfolio

Would you like to get an overview of our entire range of products? In the current overview we present you our software solutions and services.

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