



Root Cause Analysis

POWERFUL ANALYSIS TO PREVENT HIGH-IMPACT FAILURES

Root Cause Analysis (RCA) is a problem solving method aimed at identifying the root causes of problems or events. Once these root causes are identified, the right measures can be taken in order to prevent a problem or minimalise its effects. Maxgrip developed a powerful software tool to support an Innovative way of performing, managing and reporting RCA.

WHY RCA IS NECESSARY

Failures that occur on a regular basis, can have high impact. Unfortunately, jumping to conclusions, jumping to solutions, defending symptoms instead of taking care of real causes;

those are the classical issues commonly known in many organizations. There are several consequences. Problems take too long to solve, they return and they will have negative impact on availability, reliability, maintenance costs, safety, environment and corporate image. Meanwhile working-environment complexity increases. Technologies improve fast, legislation becomes more strict and more and more liability is a boardroom issue.

In this context, rigid root cause analysis methodologies are increasingly important. They enable you to solve complex problems, to communicate the outcome and to demonstrate you did the right things to prevent calamities in the future.

Training of people in a methodology for RCA is seldom enough to embed the use of RCA in daily practice. A process, with clear triggers for use, roles and responsibilities are equally important.

A powerful software tool like Optimizer+ can make the difference, by supporting the RCA-process, enabling users to easily log and visualize all data, to manage ongoing RCA's, and to report about RCA's.

RCA THE OPTIMIZER+ WAY

Innovative RCA in Optimizer+ is based on the RATIO-approach and methodologies of CoThink. RATIO stands for a new generic 5 step rational approach for analysing, solving and preventing reoccurrence of problems, incidents and complaints. When needed, every step is supported by methods like Event Mapping, Problem Analysis and Human Performance Analysis.

Event Mapping is the leading method to build a complete cause and effect tree, including all contributing circumstances and breached barriers. With symbols and colours all known and unknown causes, possible and chosen actions, as well as implemented and evaluated actions are presented in one clear overview. Event Mapping supports all steps of RATIO. In any case there are still unknown causes need to be solved, Problem Analysis and Human Performance Analysis are powerful methods for further analysis, to support the second step of the RATIO-approach for any technical, human or organizational problem. In any case FMEA functionality of Optimizer+ is installed as well, RCA's can be linked to the asset tree, providing a strong cross reference between FMECA's and RCA's.

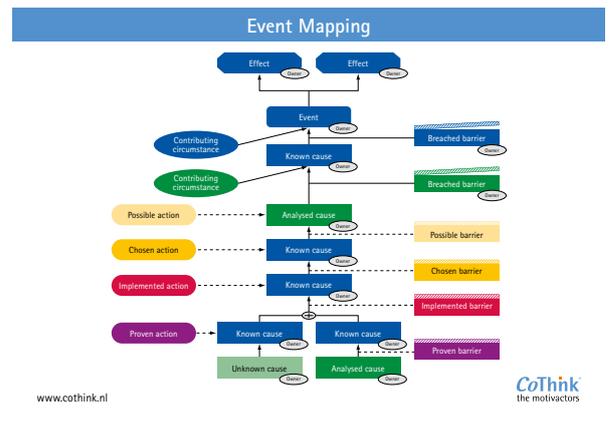
ADDRESS PROBLEMS AS A WHOLE

Common cause and effect methods are often mono causal, neglecting the fact a problem has seldom one cause. Other fault tree methods are less explicit or complete in separating effects from tangible causes, contributing circumstances and breached barriers, while doing so enables users to produce a more complete holistic analysis, understanding all aspects of the problem and with more and better potential actions to solve and prevent. Other fault tree methods will not provide a tool to find the answer on the next "why" question if the answer is "don't know", other than the use of diverging methods like brainstorming or the use of Ishikawa-diagram. Problem Analysis and Human Performance Analyse, as additional RATIO-tools, provide converging ways to do so, saving a lot of time applying trial and error, find irrelevant information, etc.

By integrating the RATIO methods into the Optimizer+ software the customer gets the best of both worlds. The method makes sure the steps to success are done in the right process, the software assures the data is stored for future purposes.



RATIO process



BENEFITS OF RCA-MODULE IN OPTIMIZER+

- RATIO leads to new insights and avoids the common pitfalls
- Significant saving potentials
- Easy to detect the relationship between failure mode and maintenance for each asset
- Easily manageable from one central application / database
- Immediately available for each asset
- RCA data and knowledge can easily be shared between departments
- Always work with the latest version
- Professional and user-friendly guidance in the RCA process
- Available as a functional module in Optimizer+ suite
- Uniform RCA method, strongly integrated with FMECA functionality
- Management reports according to Toyota A3 principle
- Clear reports on potential savings
- Contributes to continuous improvement of asset management

With the RCA-module in Optimizer+, you do not only get customized training and coaching of your workforce but also implementation support to embed RCA in daily practice. Software installation is provided.

The immediate harmful effects of failing assets may go far beyond production losses, and endanger the safety of people and the environment. Prevention is the better option in all cases. Optimizer+ is an Asset Performance Management solution complimentary to your EAM system, helping to predict and prevent failures and get the most out of your assets. Optimizer+ supports business objectives such as production optimization, safety, quality and cost control, while dealing effectively with compliance issues and environmental care.

Optimizer+ is powered by MaxGrip, asset performance optimization experts since 1997. We have an exceptional track record in bridging the gap between theory and practice. We live and breathe reliability, using only proven methodologies to help our clients meet their Asset Performance Management goals. The world's largest enterprises already rely on MaxGrip every day.