

# Quantitative Risk Analysis (QRA)

Quantitative risk analysis (QRA) provides numerical estimates that allow a business to understand the risks to which people, the business and the environment are exposed as a result of its activities. A QRA includes potential releases of hazardous material, the consequences and the frequency of occurrence.



## THE Applus+ SOLUTION

Identifying hazards is only the first step in a comprehensive safety plan. Evaluating the safety risk is an important part of managing these hazards objectively. QRA evaluates both the likelihood and impact of an unplanned event and allows a business decision to be made on the most cost-effective risk-reduction solutions.

The Applus+ solution takes a phased approach to QRA, in which hazards are identified and then potential consequences are modelled. Finally, consequences with the potential to cause harm or damage are analysed to estimate the likely frequency of occurrence and other possible associated risks.

The Applus+ team of highly experienced QRA professionals divides the QRA study into two main phases:

1. Preliminary phase: the main objective of which is to ensure that the client's personnel and the relevant authorities fully understand and agree upon the QRA methodology.
2. Detailed QRA phase, involving in-depth work in the following areas: safety-management system, data collection, hazard identification, frequency estimation, event tree analysis, consequence modelling, risk ranking, risk reduction, ALARP analysis and reporting.

The QRA method provided by Applus+:

- Provides quantitative results, including factoring in uncertainty for tasks and the total project

- Identifies the important contributors to uncertainty according to task and total project
- Identifies potential risk-reduction actions
- Identifies key boundary conditions

## Target customers

Businesses in all sectors can benefit from a properly executed QRA programme. Identifying threats, their consequences and their frequency helps operators manage their assets and keep their levels of risk within acceptable parameters.

## Key customer benefits

Applus+ helps its clients to effectively manage their risks. This ultimately results in cost savings by reducing interruptions to business, limiting injuries to personnel and preventing damage to equipment. The valuable information provided by a QRA programme helps the client to make sound, well-informed business decisions. Applus+ can also help its clients to ensure that they are in compliance with all relevant legal risk-management requirements.