

# RISK ASSESSMENT

*Risk = Likelihood × Consequence*

APT Research, Inc. conducts risk assessments for launch systems, explosives, and other inherently hazardous operations. These assessments begin with the standard risk equation:

$$\text{Risk} = \text{Likelihood} \times \text{Consequence}$$

From this basic equation a specific risk equation is derived in mathematical terms to reflect the scientific and probabilistic situation under assessment.



## Overview

APT has developed risk equations for the following organizations:

- Range Commander's Council
- National Ranges
- Department of Defense Explosives Safety Board
- Air Force Safety Center
- US Army Technical Center for Explosives Safety
- Naval Ordnance Center
- Marines Corps Systems Command
- NATO AC/258
- Explosives Manufacturers

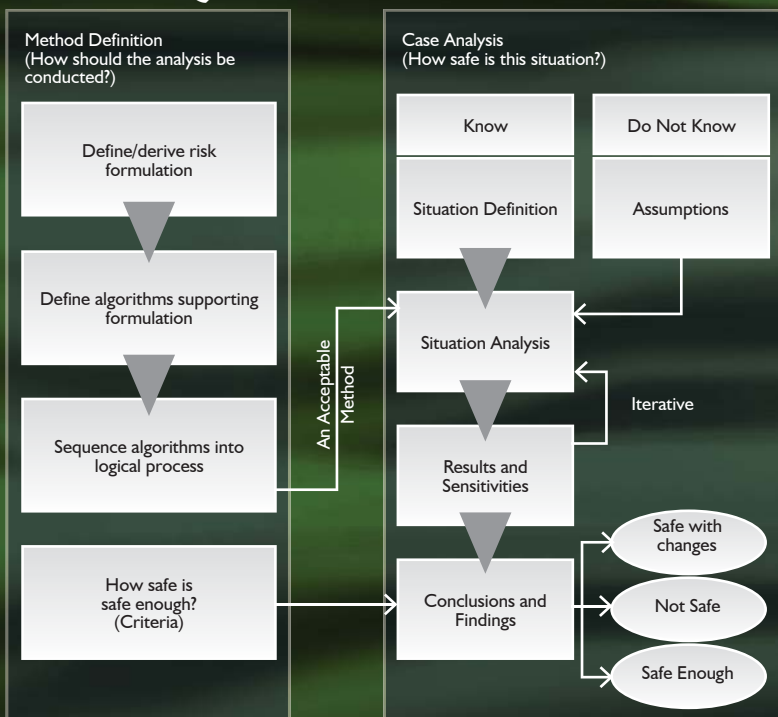
## Capabilities

- Conduct reliability studies
- Evaluate high risk scenarios
- Derive applicable risk equations
- Compile statistical analyses
- Minimize the worst case risk

## Customers

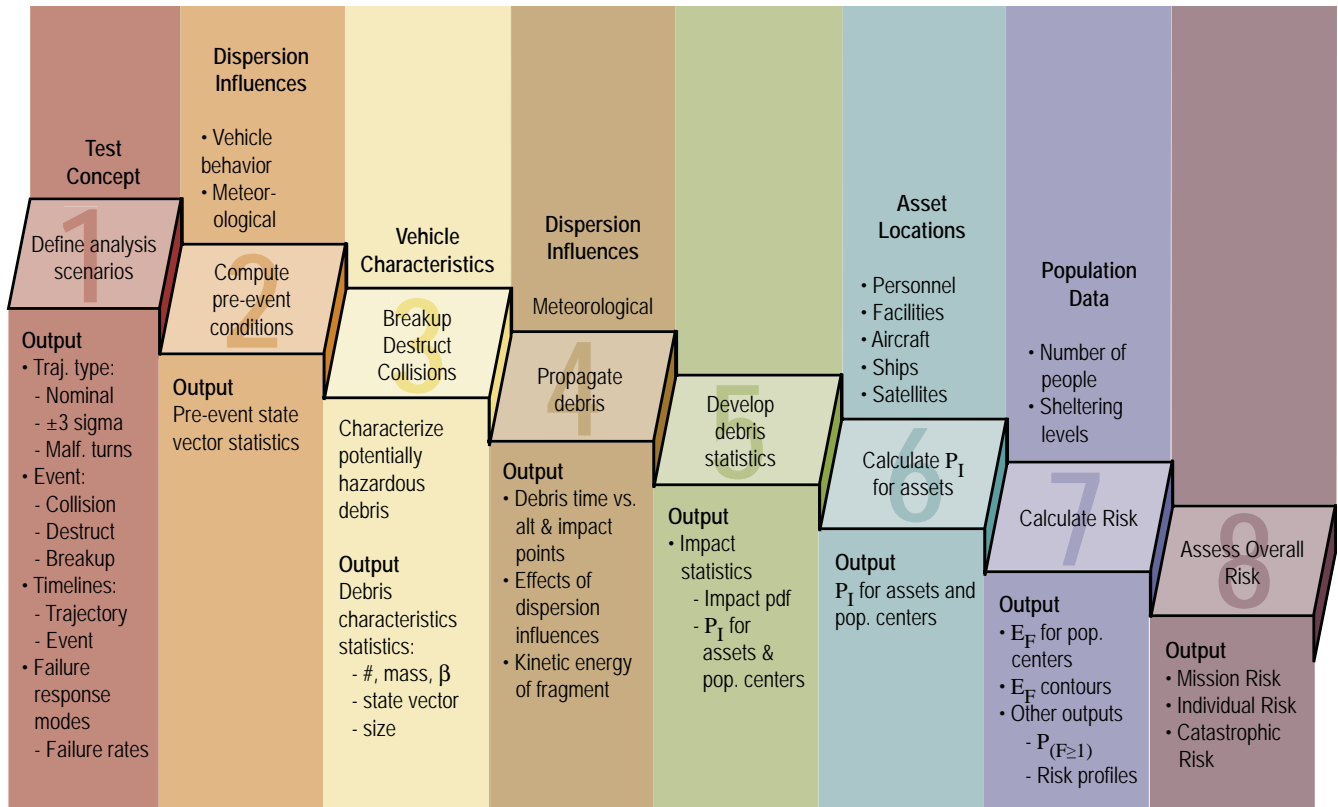
- GMD GBI
- GMD T&E
- WSMR
- SMDC Safety
- NASA, MSFC
- Edwards AFB
- UK
- NATO
- All Armed Services

## GENERIC QRA PROCESS



# Industry Standard Approach Defined in RCC Standard 321

The 8-Step Process applies to many missile systems and to all national ranges.



## Accomplishments

- GMD Integration, Analysis, Test, and Checkout (IAT&C) Procedure Review
- X-34 Quantitative Risk Assessment
- GMD System Integration Assessment
- RLV Reliability Study
- Risk Assessment for Commercial Industries

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