



**CGE**

**Risk Management Solutions**

Making risk understandable



**Sudaksha**

Strategic & Innovative Solutions

# **The leading provider of barrier based risk management solutions**

Today's world is increasing in complexity and risks. To deal with this constant change, companies need new and innovative means to manage their risks. CGE specializes in bringing together different leaders in the safety software industry to provide powerful and comprehensive safety solutions and services.

Our goal is to offer world class barrier based risk management software solutions that cover operational, tactical and strategic risks.

# Some of our customers





BowTie  
**XP**

Visualize your risk assessment

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BowTie  
**Plugins**

Quantify your bowties, LOPA

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Audit  
**XP**

Use your bowties for audits

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Incident  
**XP**

Analyze incidents & link to bowties

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BowTie  
**Server**

Bring your bowties to the enterprise

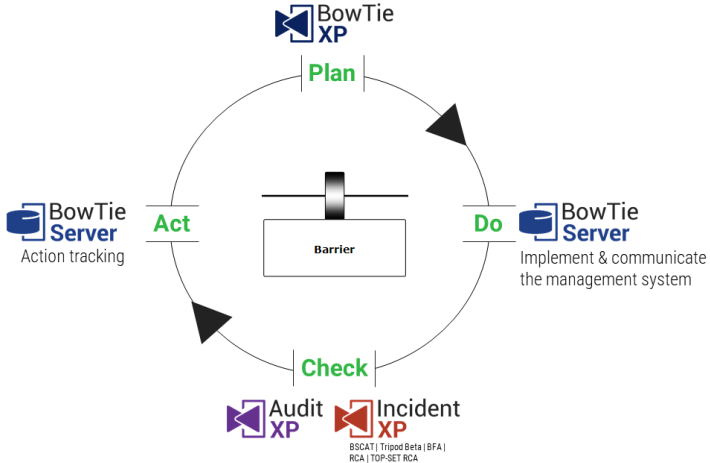
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BowTie  
**e-Learning**

BowTie e-learning

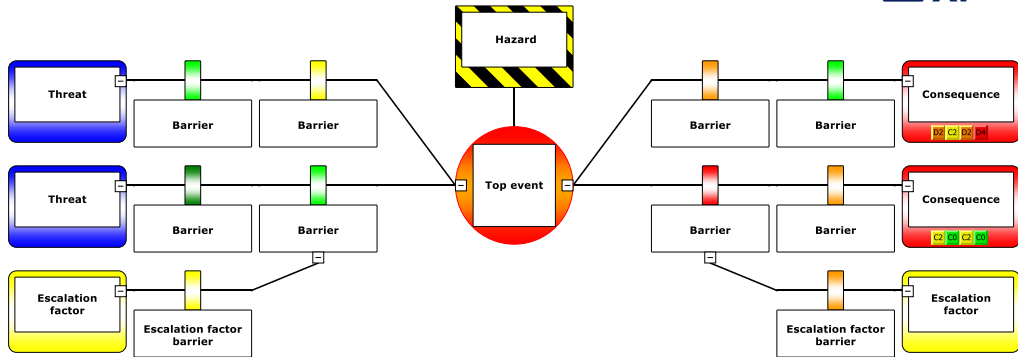
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visual risk assessment

BowTieXP is a next generation risk assessment tool that uses the bowtie method to assess risks. BowTieXP is unique in its ability to visualize complex risks in a way that is understandable, and also allows detailed risk based improvement plans to be created.



### Structure knowledge

Individual knowledge is aggregated and stored in order for organizational learning to occur.

### Analyze & assess

Analyze and distill weak points in how you manage risk and create risk based improvement plans.

### Risk communication

BowTieXP helps to increase risk awareness by visualizing risk. It is easier to gain insight while maintaining overview.



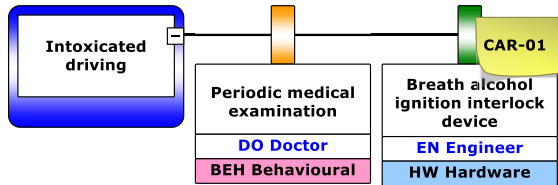
# Take the next step in risk assessment with BowTieXP

## Barrier Effectiveness

Barrier effectiveness gives instant visual insight into the strength of your Barriers.

## Barrier Types

Increase the robustness of the organization, by decreasing the likelihood of common mode failures.

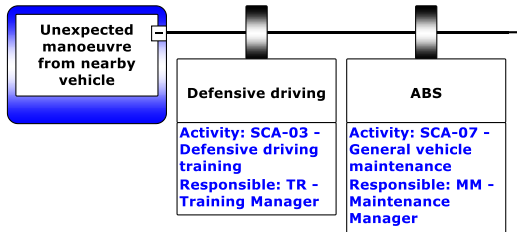


## Barrier Accountability

Make barrier and activity accountability transparent, so that everybody knows what to do to operate safely.

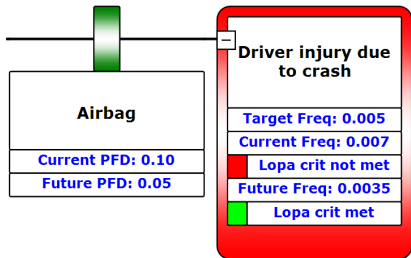
## Visualize your Safety Management System on a bowtie

Build a Safety Management System that is rooted in a bowtie risk analysis. Each activity can be traced back to the reasons for doing it. The SMS exists primarily of safety critical activities undertaken to assure the on-going integrity of risk barriers. Everyone can see the risk context in the bowtie, together with the activities.



## Quantify your BowTie diagram

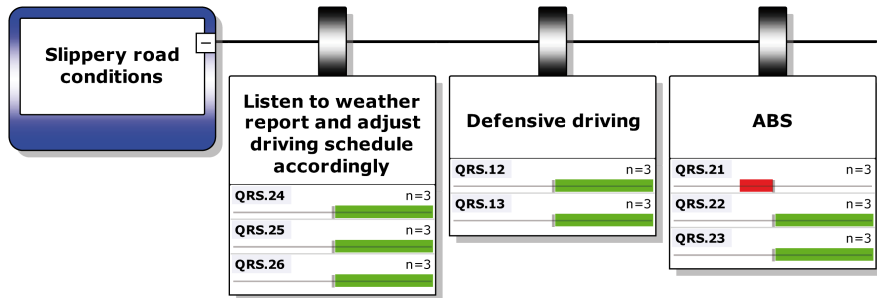
The BowTieXP LOPA plug-in automatically calculates the frequency of a consequence, given the initial frequency of all the threats and the Probability of Failure on Demand (PFD) of the barriers. This allows you to easily compare the target consequence frequency with the actual consequence frequency.





monitor barrier performance

Monitoring the performance of safety barriers in the organization is still a challenge. AuditXP allows questions to be attached to all barriers that have an impact on safety, as well as the underlying management systems that implement and maintain barriers.



### **Export Excel questionnaires**

It's easy to export an Excel sheet with a list of questions, send the file to multiple persons, and import the answers back into BowTieXP. No IT implementation required.

### **Create overview or see the details**

You can see the bowtie overview, or zoom into a single comment. It depends on what you want to achieve.

### **High quality reports**

Audit results can be exported into several beautiful Word reports. These are standardized formats ranging from high level to detailed reports.

### **Visual Audits**

Instead of hiding audit results in lists with answers, we visualize results on the Bowtie itself. This makes potential problems instantly recognizable.

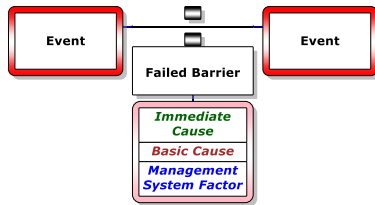
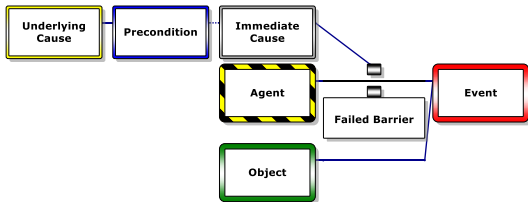


one platform to analyze incidents

Learning from incidents is a challenge. Providing the right method to untangle a complicated incident is crucial to uncover what lessons should be learned on all levels. IncidentXP combines the most innovative incident analysis methods in one tool, allowing you to choose which one you need.

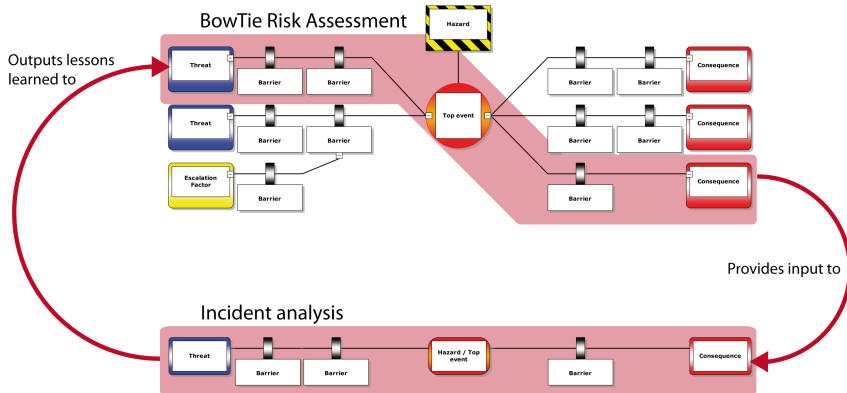
## 4 methods to choose from

Five innovative barrier based incident analysis methods were selected for IncidentXP. BSCAT, Tripod Beta, TOP-SET RCA, Barrier Failure Analysis and Root Cause Analysis. All can be used as stand-alone tools, or in combination with BowTieXP.





# Integrate Incident Analysis & Bowties





enterprise barrier management

BowTieServer aims to solve some of the harder problems in risk management, like useful aggregation of risks, tracking barrier performance over time and getting reports off the shelf and into the organization.



### **A central repository**

BowTieServer centralizes all the BowTie, incident and audit information within an organization in a single database. It also standardizes risk management, leading to a consistent approach across the organization. This makes communicating and comparing risks easier.

### **Risk awareness at all levels**

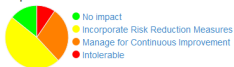
BowTieServer enhances barrier based risk management on all levels of your organization. It understands who is logged in, and adjusts the information accordingly. Managers and the workforce have different information

needs, which BowTieServer can tailor to. Simultaneously, it allows organizations to increase transparency and learning. Managers have line of sight, and the workforce can compare sites, assets and locations.

### **Barrier performance monitoring**

BowTieServer can monitor barrier performance with an innovative continuous improvement cycle. This is done through an integrated approach with audits, incidents and other data sources. Monitoring barrier degradation and emergent risk trends over time are now possible.

#### People



#### Environment

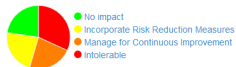


#### Barriers

#### Effectiveness



#### Assets



#### Reputation

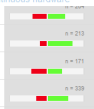


#### Barrier Type



UK

Location 10



Location 11



Location 12



USA

Location 13



# Personal & smart BowTieServer reports



## **BowTieXP introduction and refresher**

E-learning is an easy accessible online solution to get familiar with BowTieXP or to refresh your bowtie method and software knowledge.

Currently CGE offers two e-learning modules:

1. Basic Bowtie Methodology
2. Bowtie Diagram Construction with BowTieXP

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