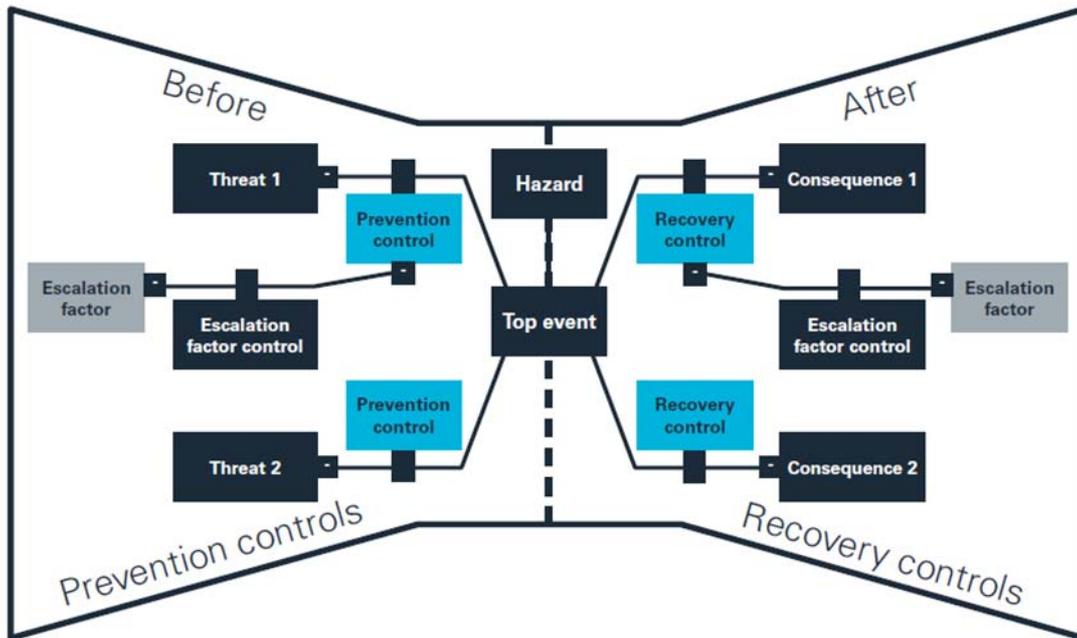


Bowtie Barrier Risk Models



Bowties can be a key tool in Performance Based Oversight and Safety Management Systems – it can help you by:

- **Illustrating the safety system in an effective, visual depiction of risk**

The bowtie offers a clear visual display of risk which intrigues others getting them interested and engaged.

- **Providing safety information to meet each element of an effective SMS**

- Hazard identification - identifying threats and top events within a bowtie classifying as SMS hazards
- Risk Assessment - qualitative assessment of safety controls. How good are the controls you have in place?
- Risk Mitigation - appreciating where actions will have the most affect
- Safety Assurance - identifies worthwhile safety performance indicators for monitoring within your operation
- Safety Promotion - a visual tool to clearly demonstrate everyone's role in managing risk and why everyday practices and procedures matter to the operation.

- **Balanced risk overview for the whole aviation system between internal and external stakeholders (including third-party risk)**

The bowties can provide an overview of the total aviation system in a visual way taking into consideration all parties who can affect the controls, threats and/or consequences of the focussed safety issue/top event. Bowtie has the capability to demonstrate how third party procedures impact your operation.

- **Increased awareness and understanding of precursor events**

It is difficult to appreciate how potentially a common "norm" or "small" event can escalate into a catastrophic outcome (such as the Significant Seven). Bowties have the functionality to illustrate the impact of not completing a procedure or how those "small" events or precursor/near misses can impact the operation. It also highlights the many different ways an unwanted event can manifest itself around a safety issue.

- **Identification of critical risk controls, assessment of their effectiveness and appreciating exposure to threats**

A bowtie model should never stay the same – it should be updated to reflect the current operation along with showing how the current operation is performing. This can be demonstrated through classifying the bowtie information showing critical controls (controls that you would not be comfortable operating without), control effectiveness (using data and subject matter experts) and threat exposure (identifying the potential likelihood of threats being present in an everyday flight). These classifications help prioritise your safety actions and improvements.

BowTie Barrier Risk Models – The Key Elements

