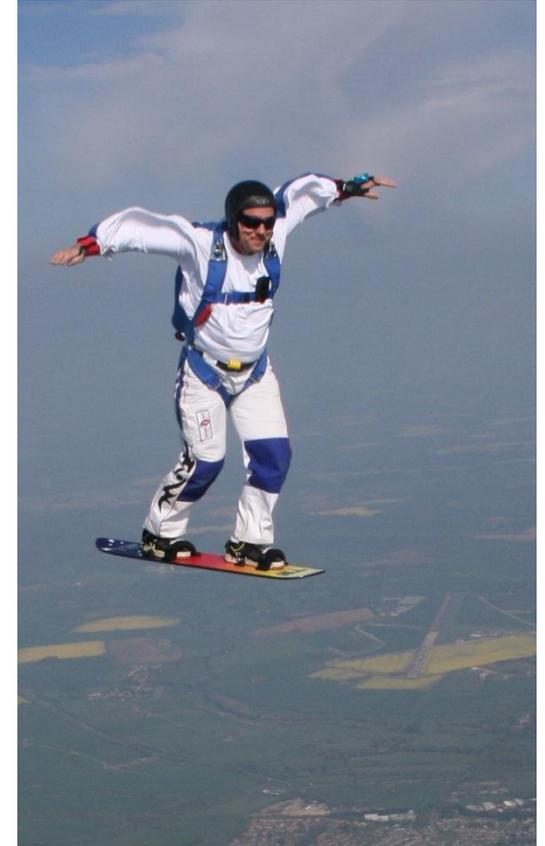


Managing an Acceptable Level of Safety

Dr Simon Mitchell
Visiting Fellow
Safety and Accident Investigation Centre

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16 July 2002,
11 Fatalities





© Reuters

20 April 2010,
11 Fatalities

1.3.3 The air transportation industry's future viability may well be predicated on its ability to sustain the public's perceived safety while travelling. The management of safety is therefore a prerequisite for a sustainable aviation business.

4.2.2 There is no such thing as absolute safety. Before any assessment can be made as to whether or not a system is safe, it is first necessary to determine what the acceptable level of risk is for the system

“Good ideas are not adopted automatically.
They must be driven into practice with
courageous patience.”

Hyman Rickover

US (Polish-born) admiral (1900 - 1986)

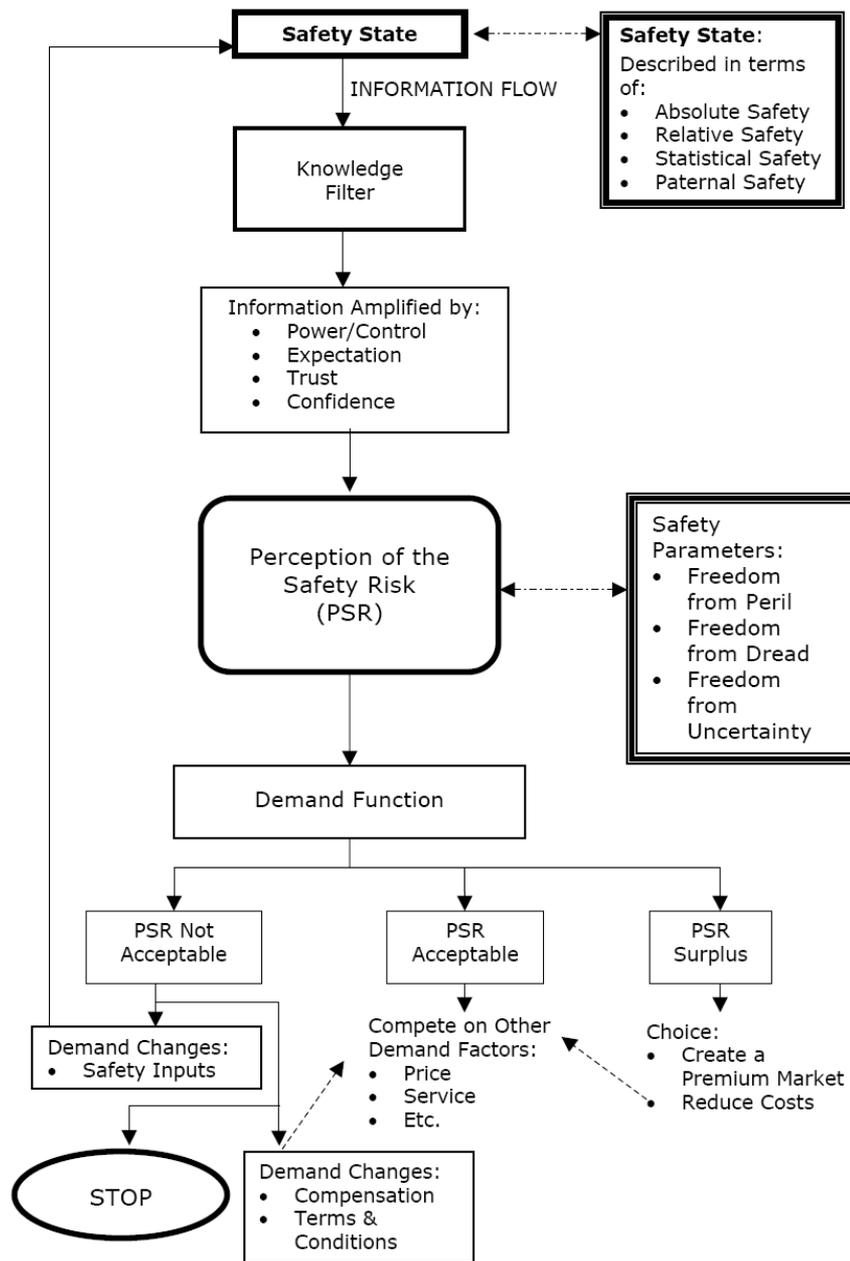
- Technical
- Legal
- Political
- **Social**

Acceptable Safety



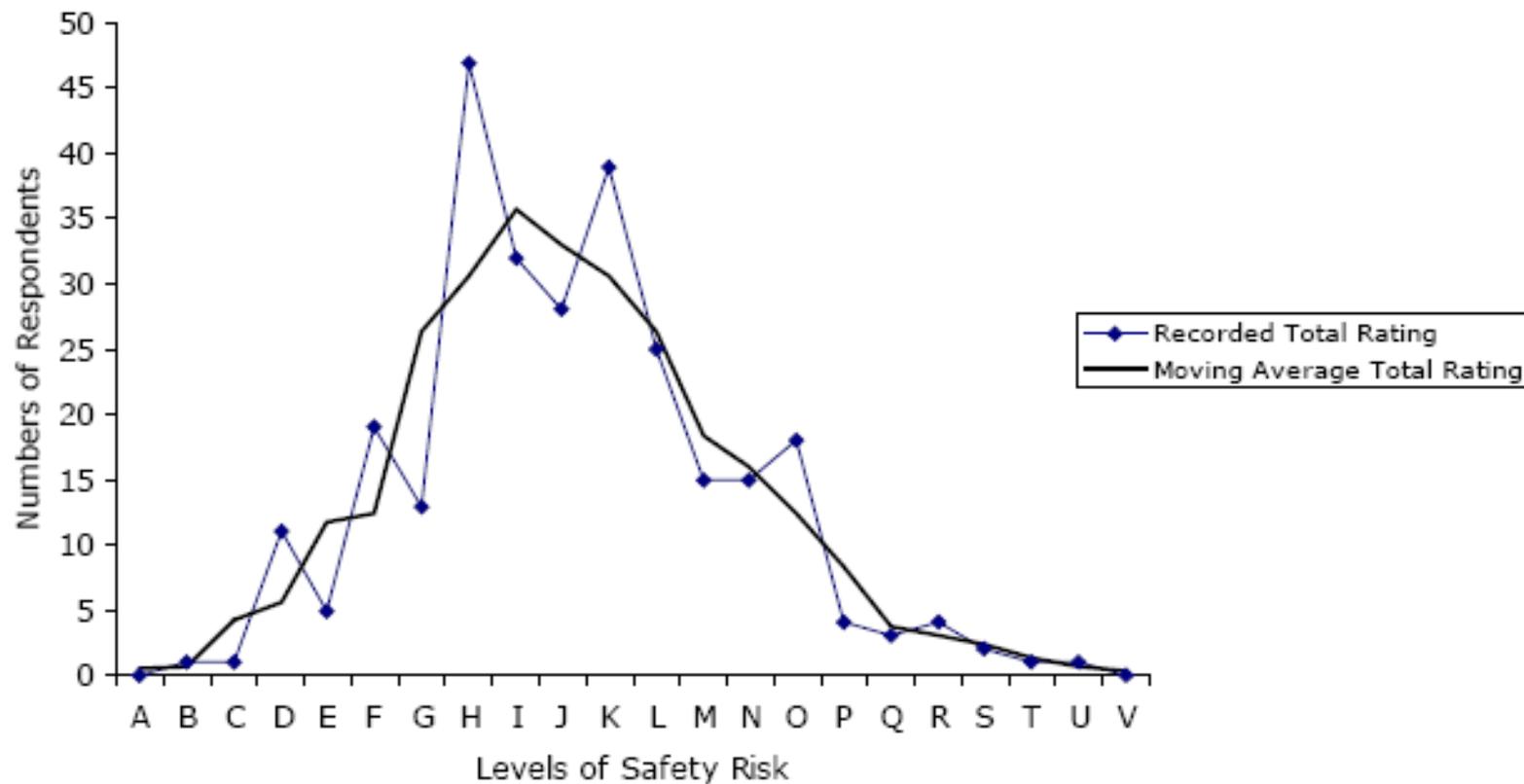
Market
Stable

Market
Unstable



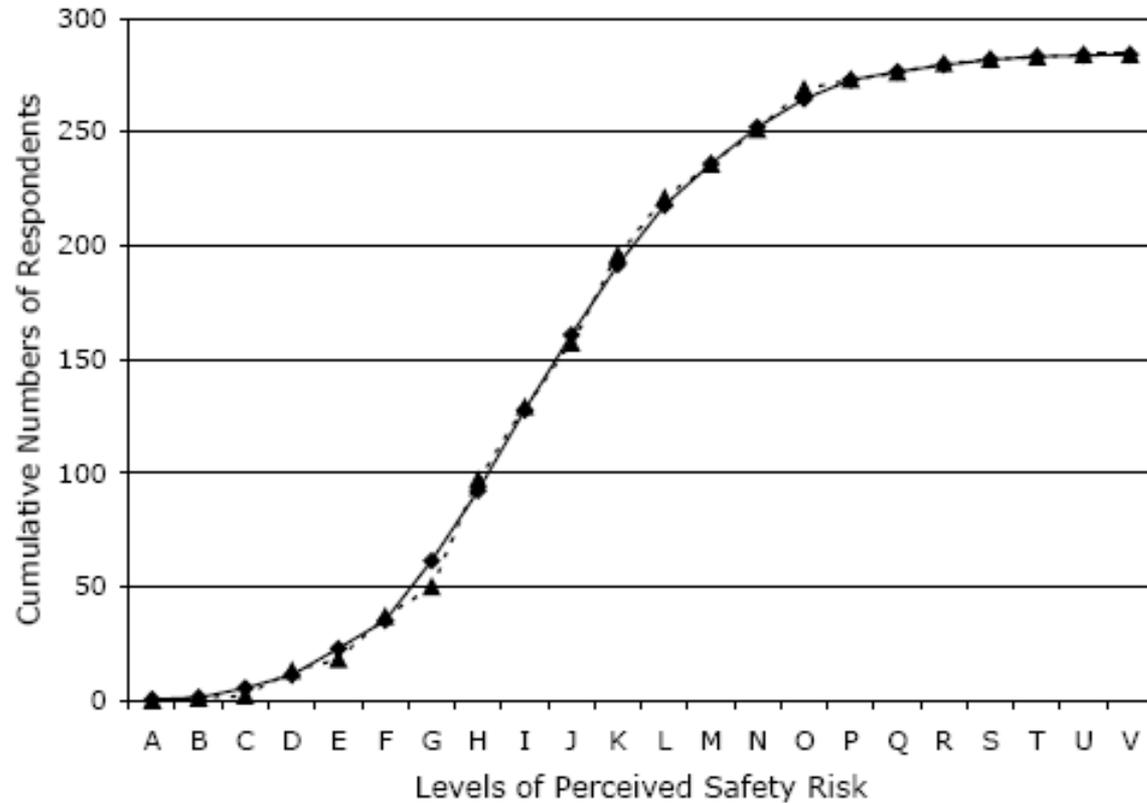
Mitchell, S.J.LeM (2006)

Figure 33: Relative Levels of Acceptable Risk as Stated by Respondents in Survey Sample



Mitchell, S.J.LeM (2006)

Figure 34: The Cumulative Numbers of Respondents Affected at Each Level of Perceived Safety Risk

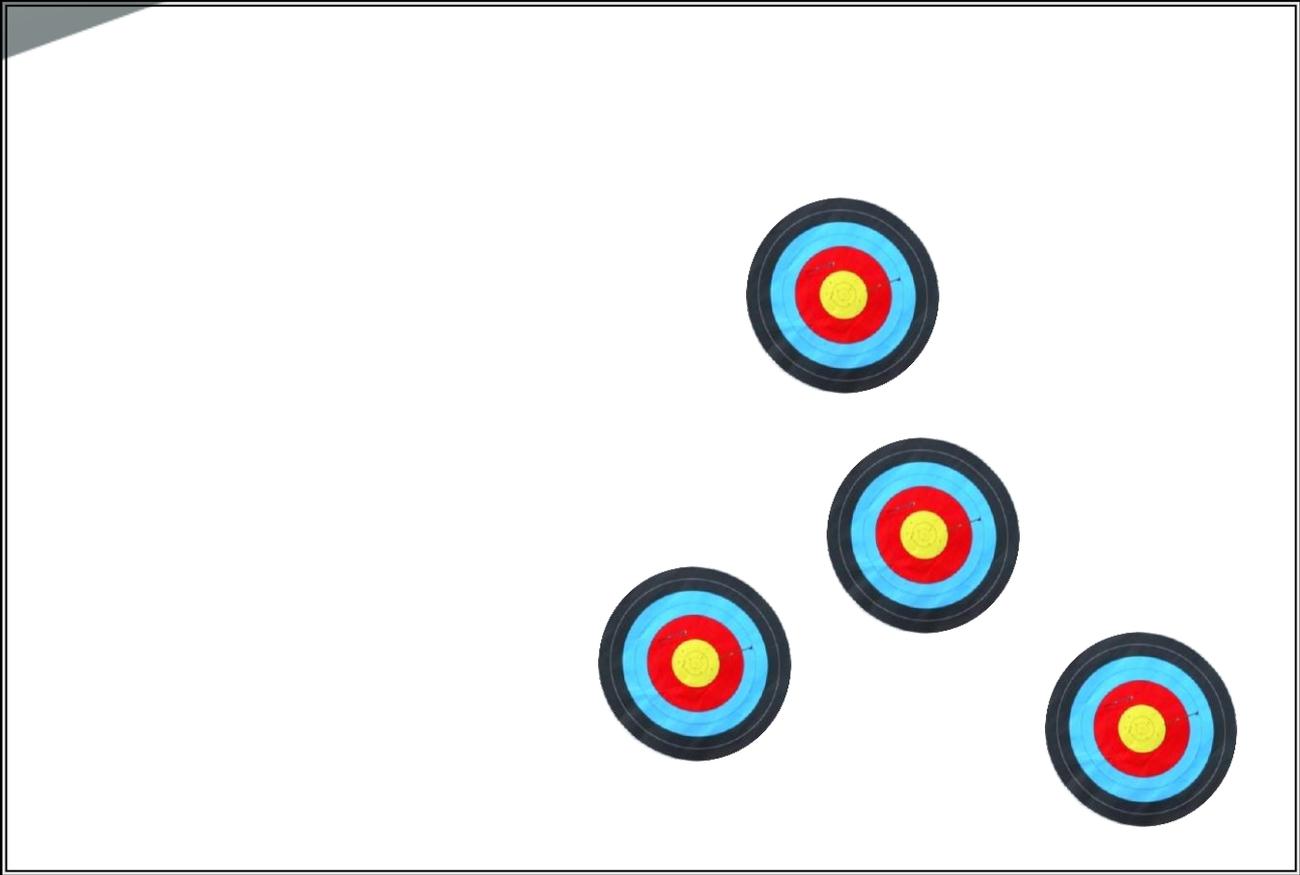


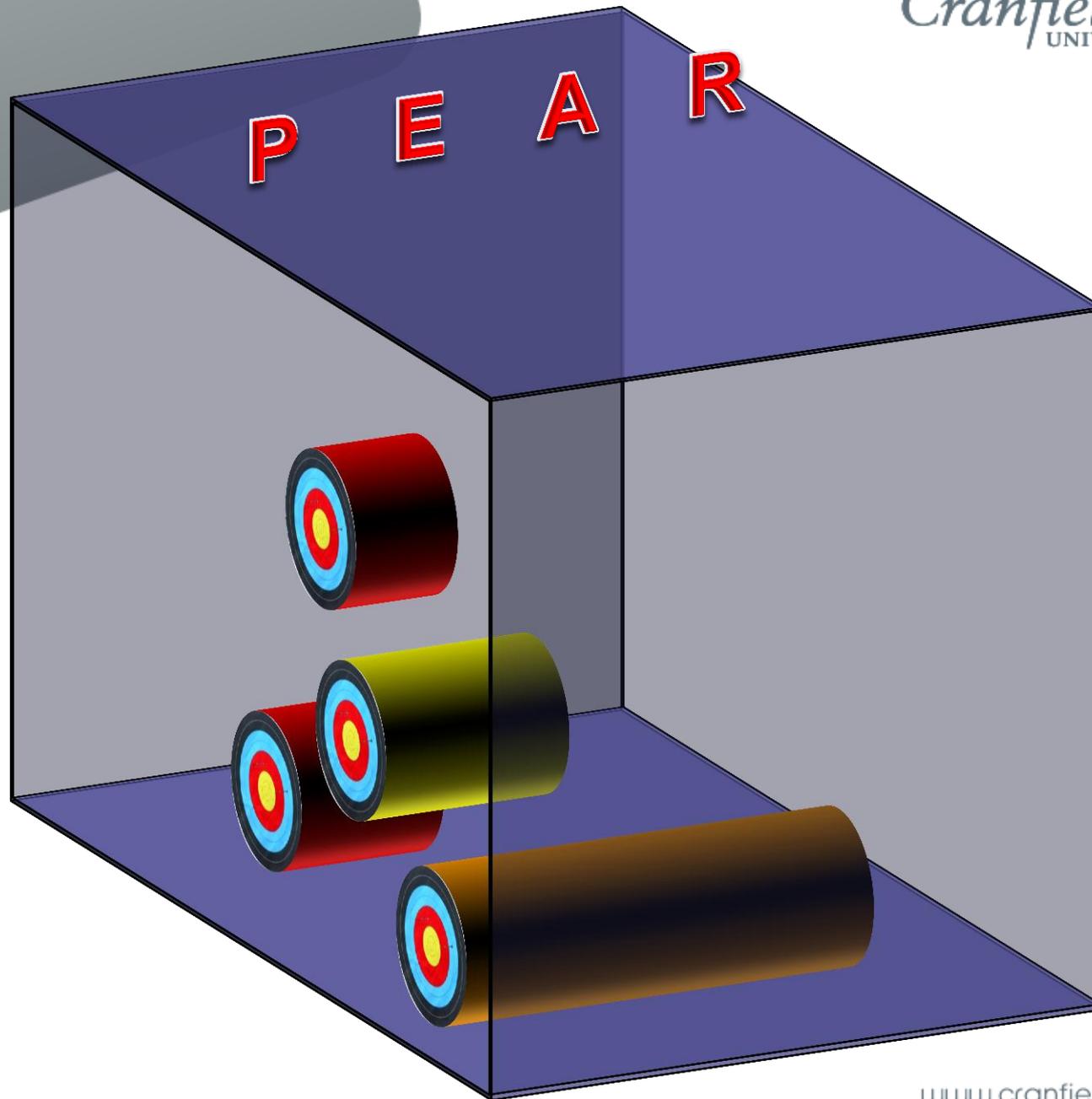
- - ★ - - Aggregate Response to Perceived Safety Risk
 — ◆ — Aggregate Response to Perceived Safety Risk (Moving Average Total Rating)

ALoS



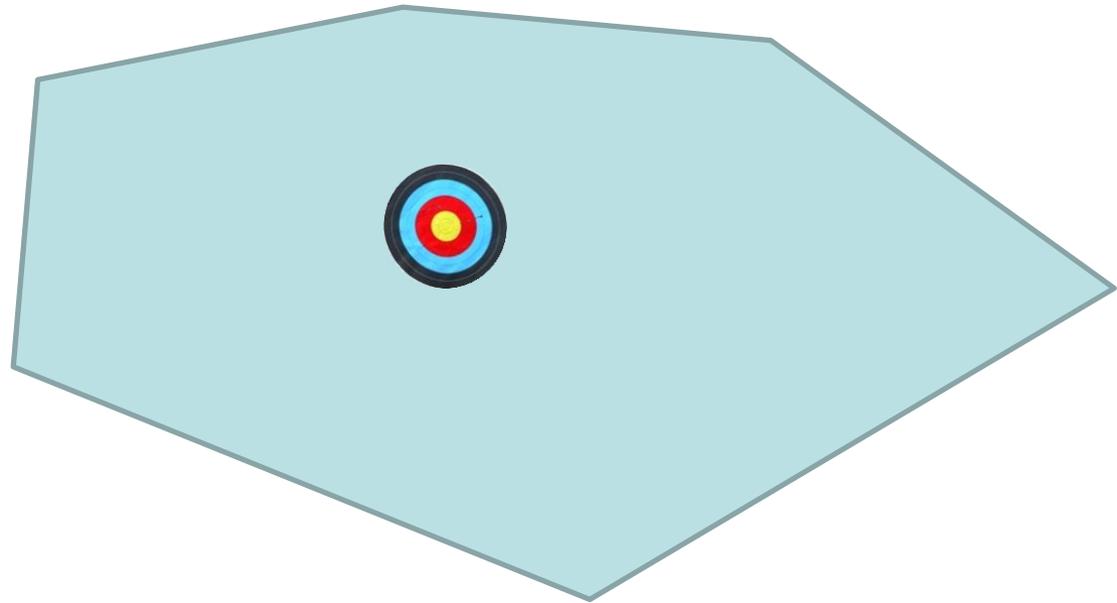
Safety Targets



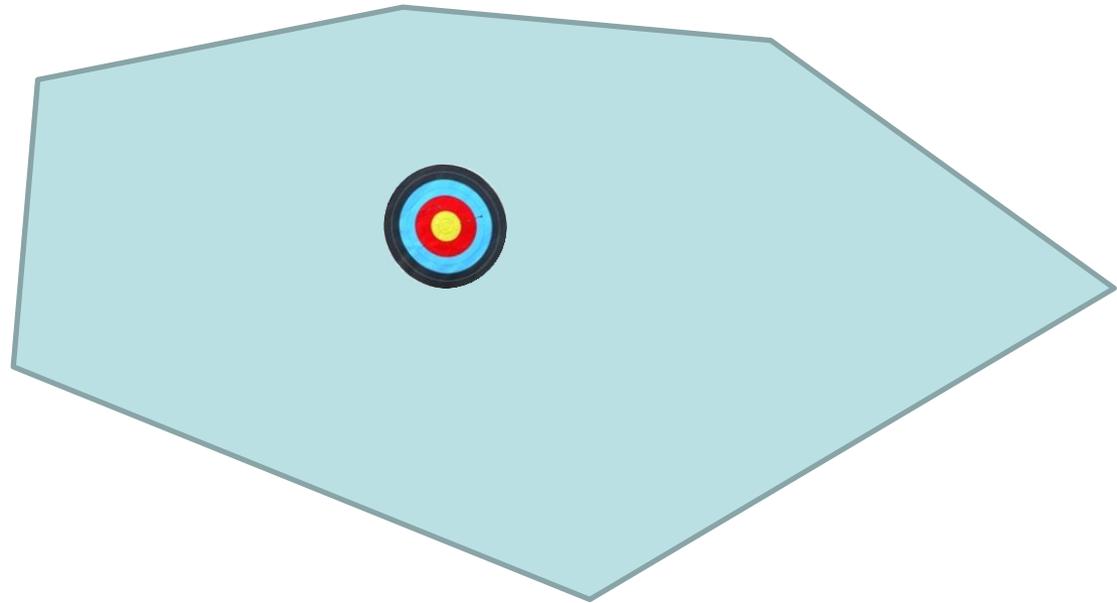




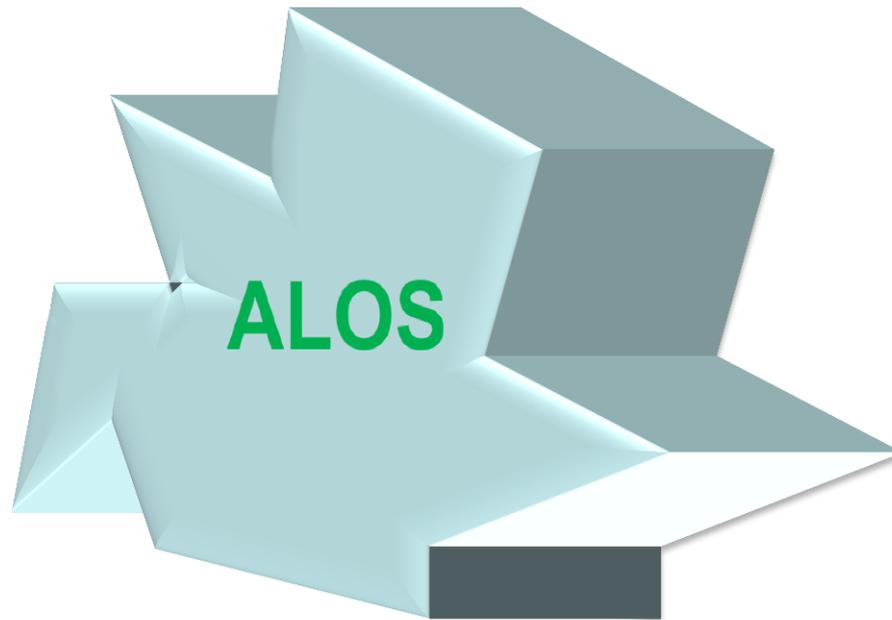
Uncertainty and Risk Assessment

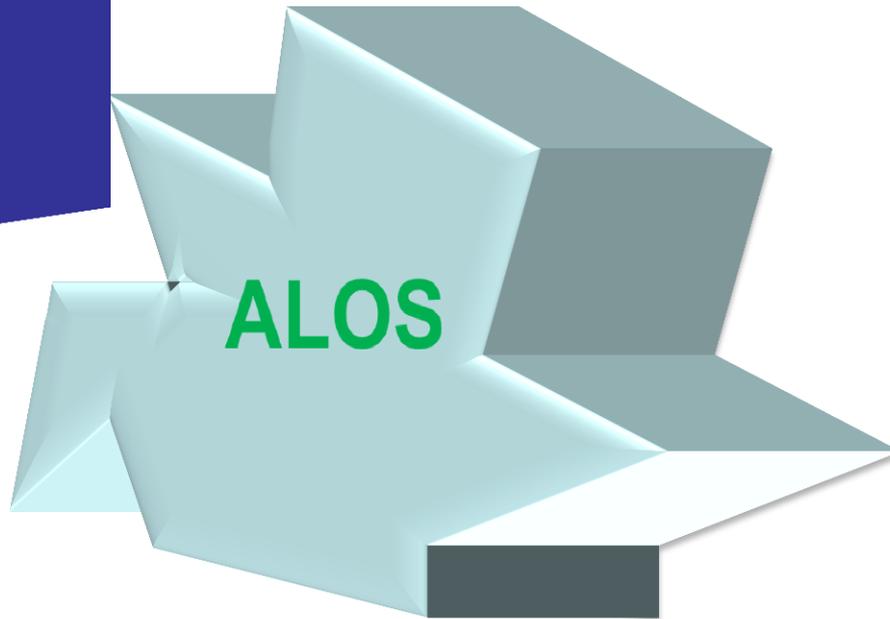


Uncertainty and Risk Assessment



1. Industry
 - i. Manufacturers
 - ii. Operators
 - iii. Service Providers
2. Government
 - i. Executive
 - ii. Judiciary
 - iii. Legislative
3. Consumers & Society
 - i. Passengers
 - ii. General Public





Sufficiency Paradox



Guido Calabresi & Philip Bobbitt
“Tragic Choices”
1978

Stakeholder Groups

1. Industry

i. Manufacturers

ii. **ALARP**
Operators

iii. Service Providers

2. Government

i. Executive

ii. Judiciary

iii. Legislative

3. Consumers & Society

i. Passengers

ii. **ALoS**
General Public

Stakeholder Groups

1. Industry
 - i. Manufacturers
 - ii. Operators
 - iii. **ALARP** Service Providers
2. Government
 - i. Executive
 - ii. Judiciary
 - iii. Legislative
3. Consumers & Society
 - i. **ALoS** Passengers
 - ii. General Public

Risk Assessment = Technical Process

Risk Management = Value Judgement

= **F** {Ethics, Culture,
Environment, Identity,
Values, Options, Fairness,
Equity, Respect, Benefits,
.....}

Financial Times
18 August 2009

...of large job losses. Indeed, UK refinery workers have in the past month threatened strike action over pay and other issues. In the hope of avoiding potential criticism, Shell said: "If a Shell would not confirm the bid or the interested parties. Lazard is running the auction for Shell. Results are expected to emerge in the coming weeks. www.ft.com/oil

cent. The risks of a long-term return to severe inflation are obvious. But they are yet to make themselves felt. www.ft.com/shortview

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Key Metrics

- Who Benefits?
- What are the Benefits?
- Who is at Risk?
- What is the nature of the Risk?
- Is there Informed Consent?
- Is there Equity and Fairness?
- What are the Alternatives?
- How much Trust?

QUESTIONS

?

