canso

civil air navigation services organisation

CANSO Runway Safety Initiates

31 January 2012

CANSO Runway Safety Initiatives

- Unstable Approach Education
- Global Safety Risk Model
- Common Taxonomies
- Safety Seminars/Workshops

Unstable Approach Education

Unstable Approach Definition (ALPA)

According with estipulate on each company's SOP at predetermined height 1000 feet to 500 feet for instruments or visual conditions, the aircraft is not within the parameters set stated in the next slides and must be a callout for the pilot not flying or pilot monitoring about the situation in order to execute a go around maneuver

Stabilized Parameters (ALPA)

- Aircraft in a correct path angle.
- Little changes on heading or bank are necessary to maintain approach trajectory.
- Speed no more than Vref+20 Kts or no less than Vref.
- Correct configuration for landing.
- Sink rate no more than 1000 ft per minute.
- Enough power for the landing configuration, no less than stipulated on the aircraft manual for approach.
- All landing instruction and check list completed.
- In ILS no more than one dot deviation in GS or LOC for category I operations.
- In circle to land procedures level wings at 300 ft over airport elevation.

Why There Are Unstable Approaches (ALPA)

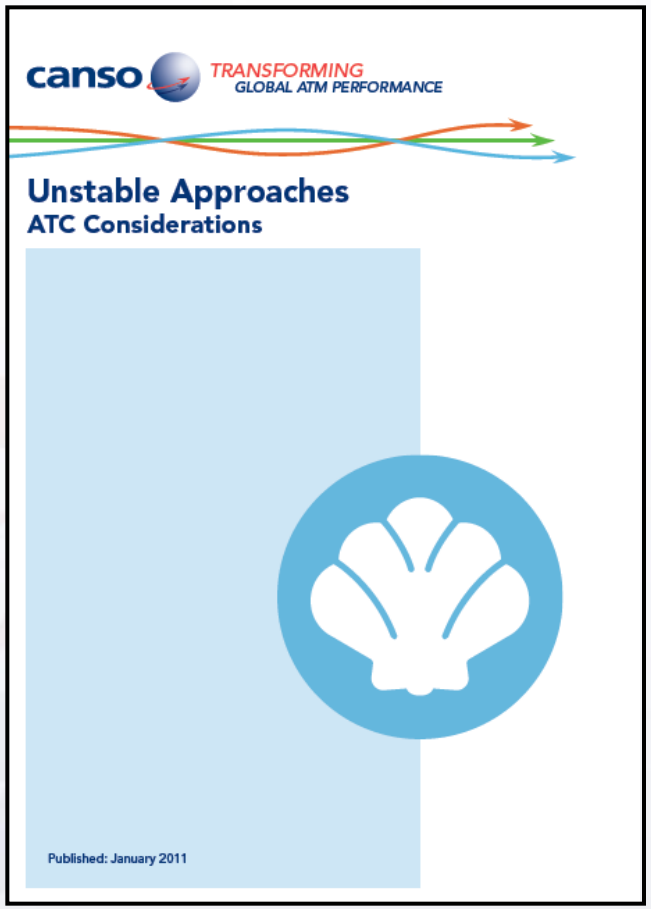
- Fatigue.
- Schedule or time pressure.
- Lack of enough time to prepare the approach.
- ATC Instructions.
- Inappropriate managing of altitude or speed.
- Last minute runway change.
- Excessive or inappropriate FMS work.
- Short Traffics.
- Do not take control from automation when necessary.

Why There Are Unstable Approaches - Continued (ALPA)

- Early or late descents.
- Low situational awareness of weather, tail wind, shear conditions, etc.
- Lack of knowledge of aircraft characteristics.
- Lack of knowledge of parameters exceeding value.
- Wrong interpretation of time necessary to be stabilized.
- Excess of confidence by PF.
- Excessive shyness from PNF to announce an abnormal situation.
- Excessive confidence between crew members.
- Visuals Illusions.

Unstable Approach

- 2nd Edition of CANSO Educational Booklet: "Unstable Approaches – ATC Considerations"
  - CANSO (www.canso.org)
  - IATA Runway Excursion Risk Reduction Toolkit
  - Eurocontrol Skybrary
- Available in English and being translated into Spanish
- Identify global Unstable Approach hotspots
- Define causal factors for industry action

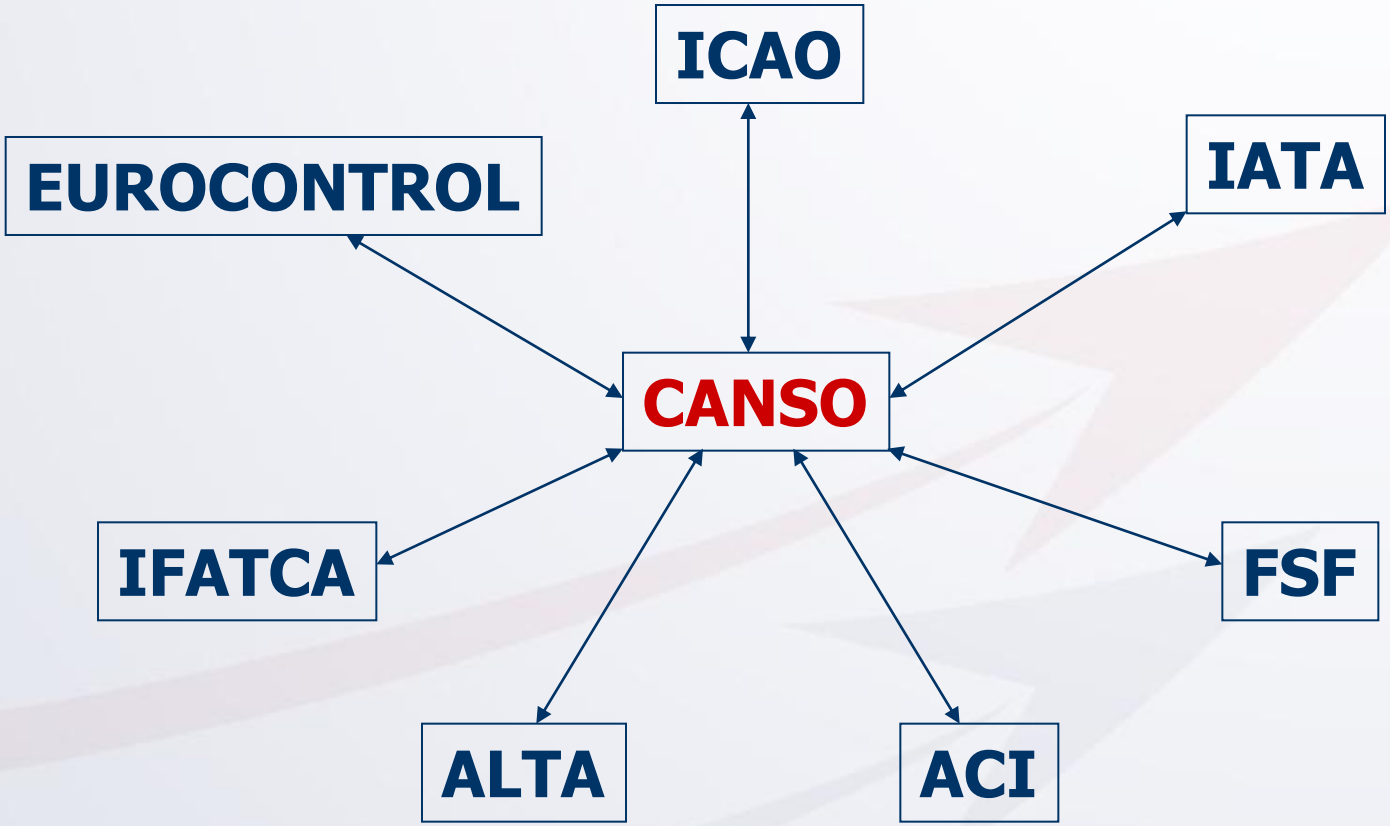


Global Safety Risk Model

Runway Safety Risk Model (Bow Tie)

- Initial Risk Model
  - Build and refine
  - Industry review and provide feedback
  - Examine other industry models
  - Validate and improve the model
- Populate with data

Global Industry Facilitation: Breaking down barriers, building bridges, fostering harmonisation:



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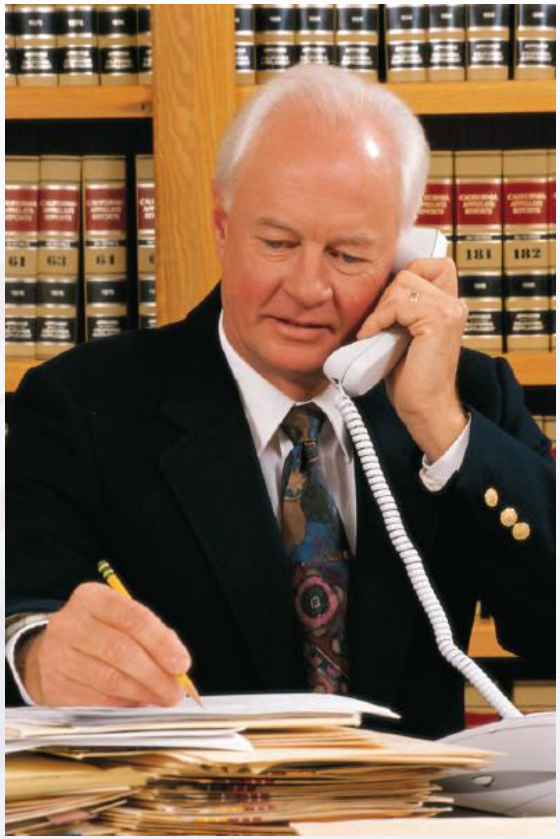
What is the Bow Tie Model?

- A risk assessment method that supplements other risk assessment techniques
- A visual tool usable with diverse audiences (a picture is worth a thousand words)
- A dedicated software tool

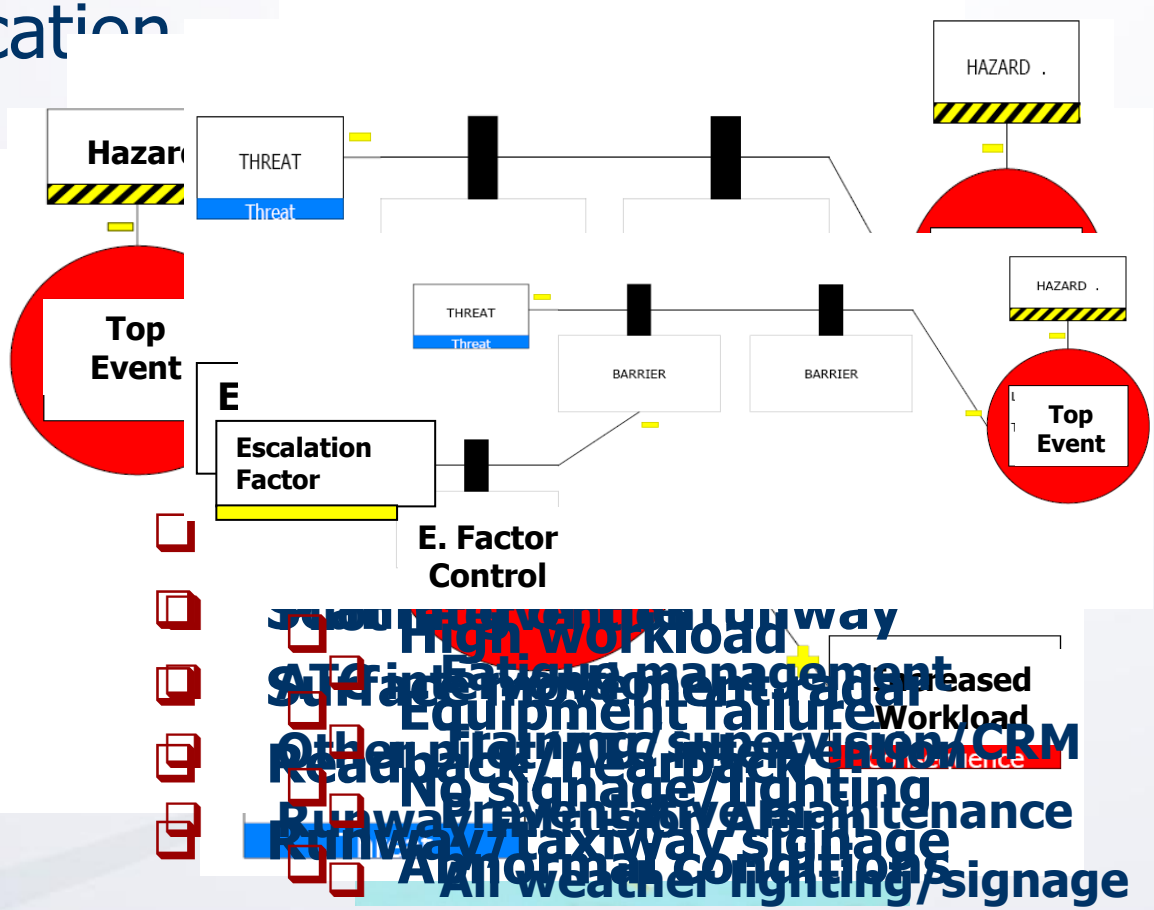
Why is this important?

- Controls manage risk
- It helps answer the question, "Have we done what is reasonable?"
  - Variety of controls
  - Number of controls
  - Control effectiveness
  - Control timing



How to Build a Bow Tie Model

1. Hazard Identification
2. Top Event
3. Threats
4. Consequences
5. Barriers
6. Recovery Meas
7. Escalation Fact
8. Escalation Fact Controls



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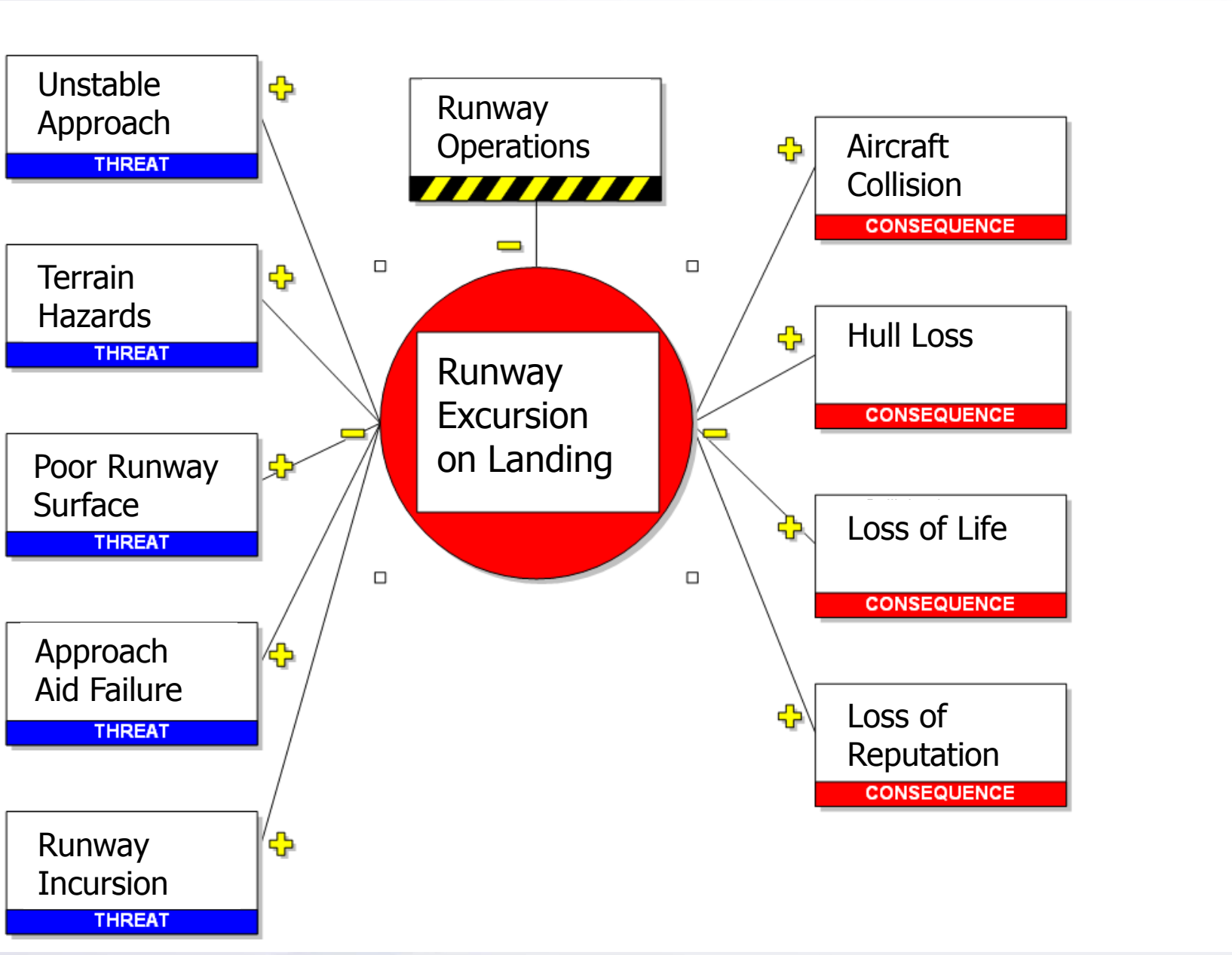

The First Risk Model

- Focus on Runway Excursion on Landing
- Comprehensive set of information including:
  - Active failures (to a degree)
  - Escalation factors
  - Systemic controls
- Needed to focus on key risk area

Common Taxonomy

Common Taxonomy Initiatives

- CANSO is in the process of developing a common taxonomy/casual factor schema, which will improve:
  - The mitigation of common risk
  - The defining of common causes
  - Streamlining risk mitigations to the root cause
  - Communications globally regarding common causes and risk

Safety Seminars/Workshops

CANSO Safety Seminars

- CANSO Caribbean & Latin America Safety Seminars
  - Willemstad, Curacao - 2010
  - Mexico City, Mexico – 2011
  - Cancun, Mexico – 2011
- CANSO Safety Seminars in Other Regions
  - Singapore - 2010
  - Bangkok, Thailand – 2011
  - Maldives – 2012
  - Amman, Jordan - 2012
- Regional Runway Safety Symposiums
  - Capetown South Africa October 2012
  - Caribbean Latin America 2013

Summary

- Canso has several items in our tool box that we have been sharing with our industry partners
- We seek to continue to strengthen the relationships to:
  - Make the tools better
  - Effectively make the information available
  - Improve safety performance locally, regionally and globally.

Muchas gracias