

This slide presentation has been produced by the UKFSC, as a model for you to tailor to meet the need of your company's Safety Management System.

To modify it simply:

- Replace the UKFSC logo with your company logo.
- Insert your company name in the text where required.
- Modify any of the wording to accommodate your own and your company's style as required.
- Add the transitions you desire.





# A Corporate Approach to Safety

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## Safety Management System





# Authorities

- | The CAA is committed to introduce Safety Management Systems in the UK for organisations that operate or maintain large aircraft for commercial air transport.
- | EU/JAA is committed to the implementation of a Joint Safety Strategy Initiative, JSSI.
- | Gore Commission is committed to an 80% reduction in hull losses by 2010.





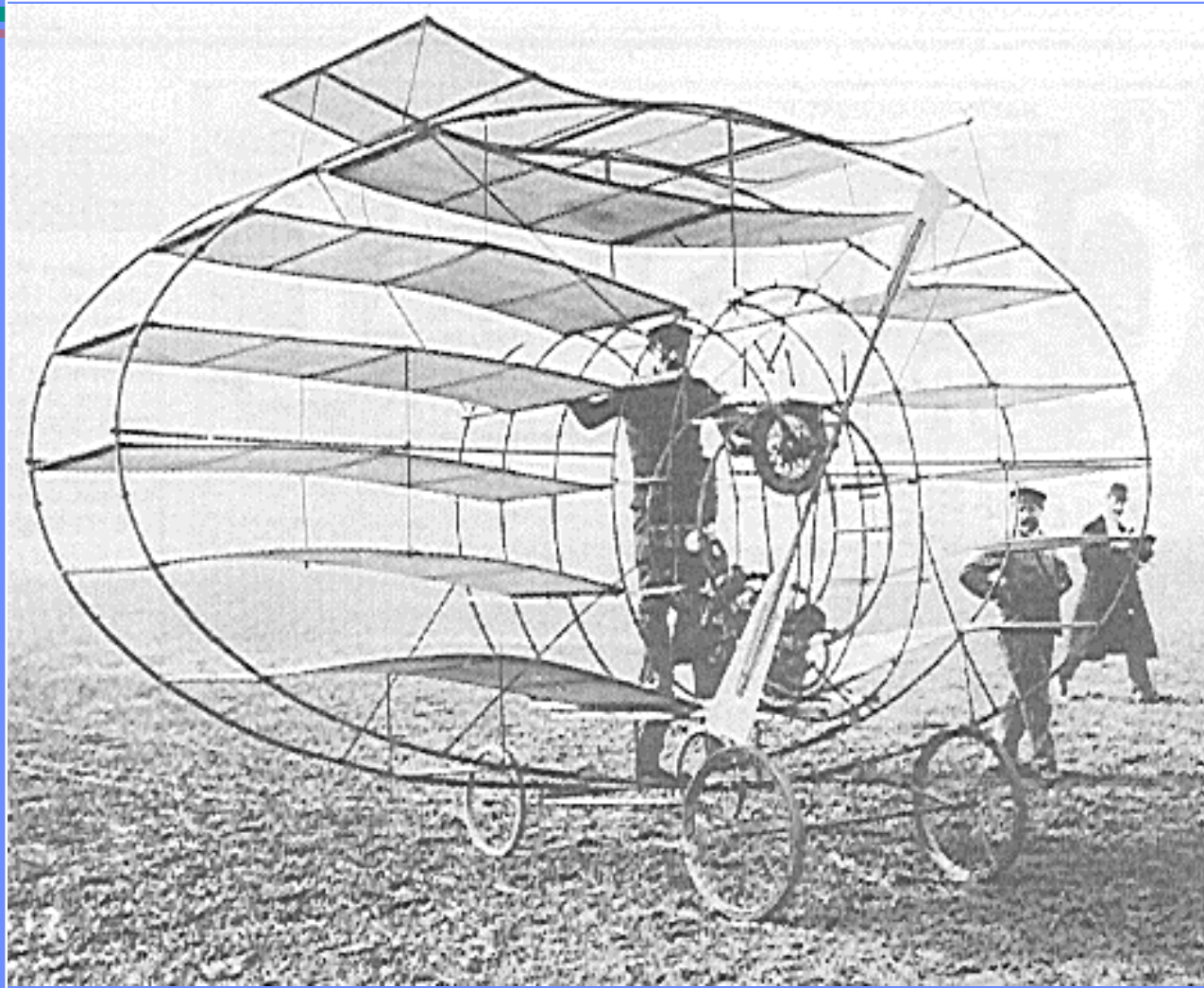
# Structure of the Presentation

- ➔ | Flight Safety Overview Historical & Future
- | What is a Safety Management System?
- | What are we required to do?
- | Potential Cost Benefit
- | Conclusion





There was a time when. . .





# Now: A complex system with many Hazards



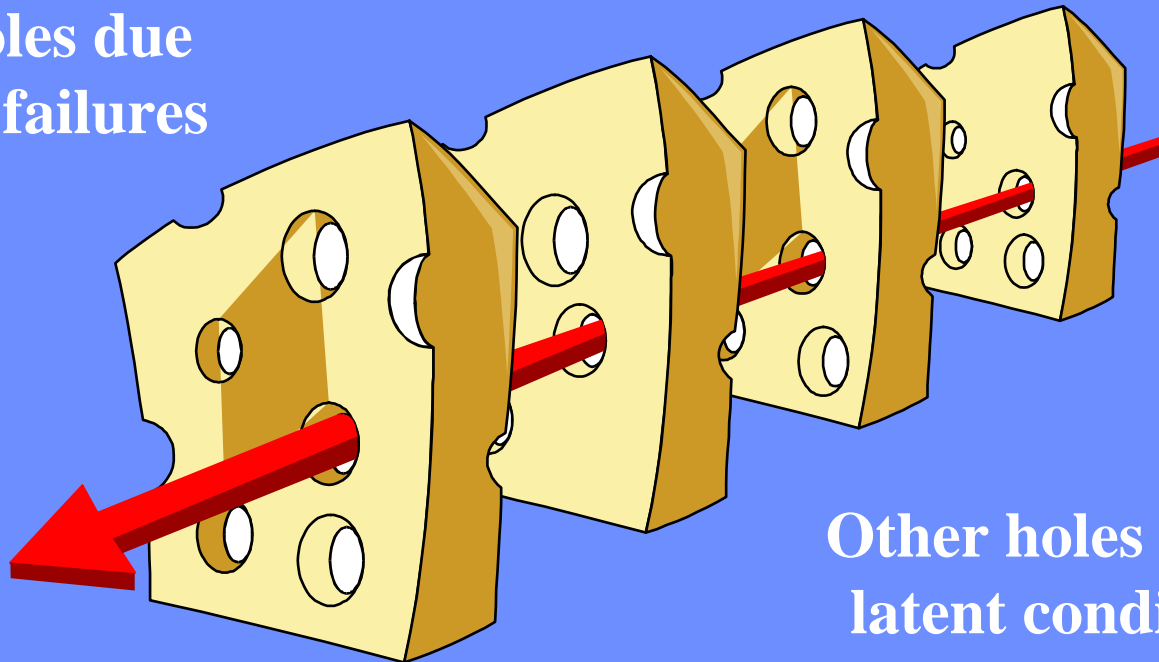


# The Swiss cheese model of accident causation



Some holes due  
to active failures

Hazards



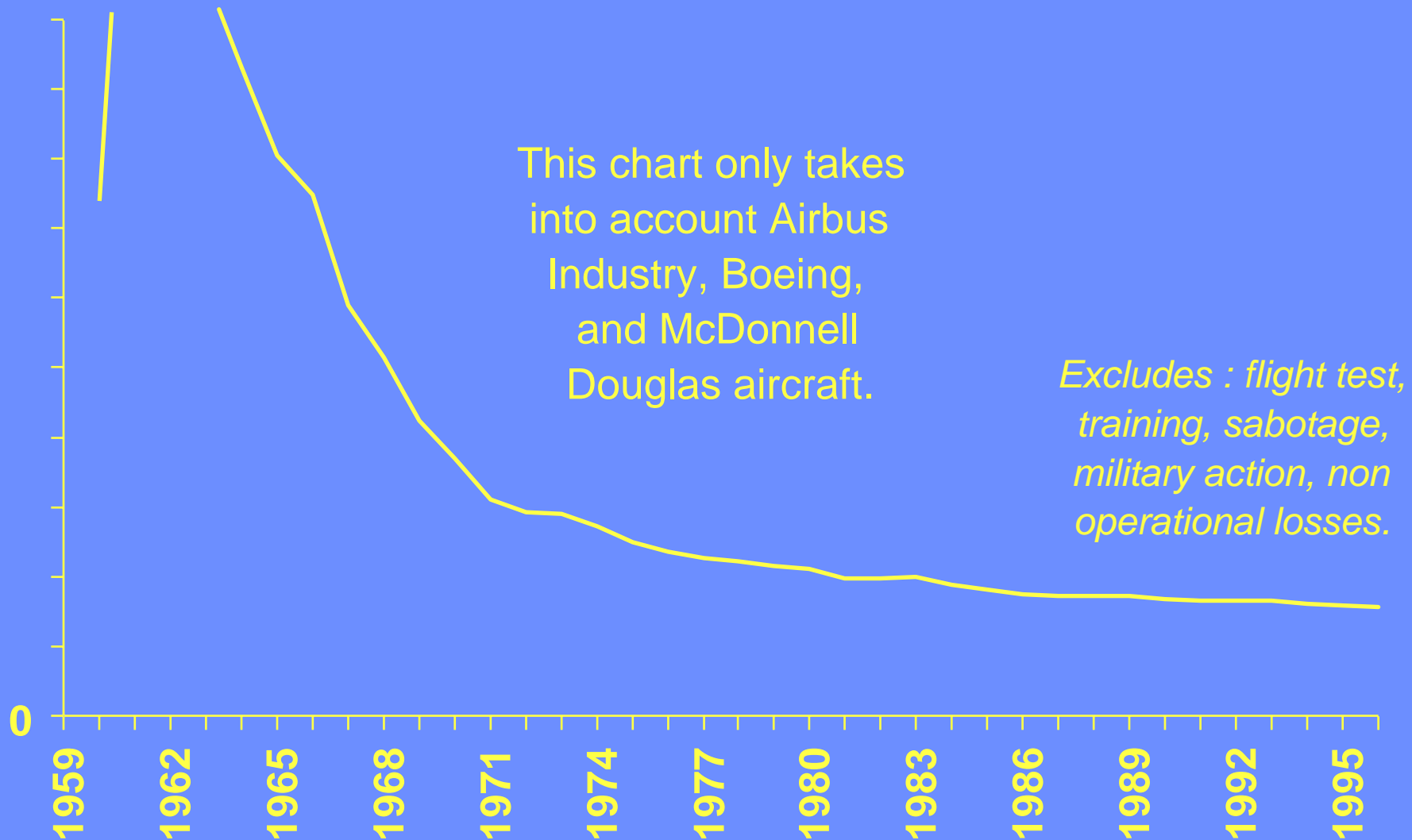
Losses

Other holes due to  
latent conditions  
(resident 'pathogens')

Successive layers of defences, barriers, & safeguards



# Historic Accident Rate - All Aircraft





# Historic Accident Rate



## 1st generation :

B707  
DC8

## 2nd generation :

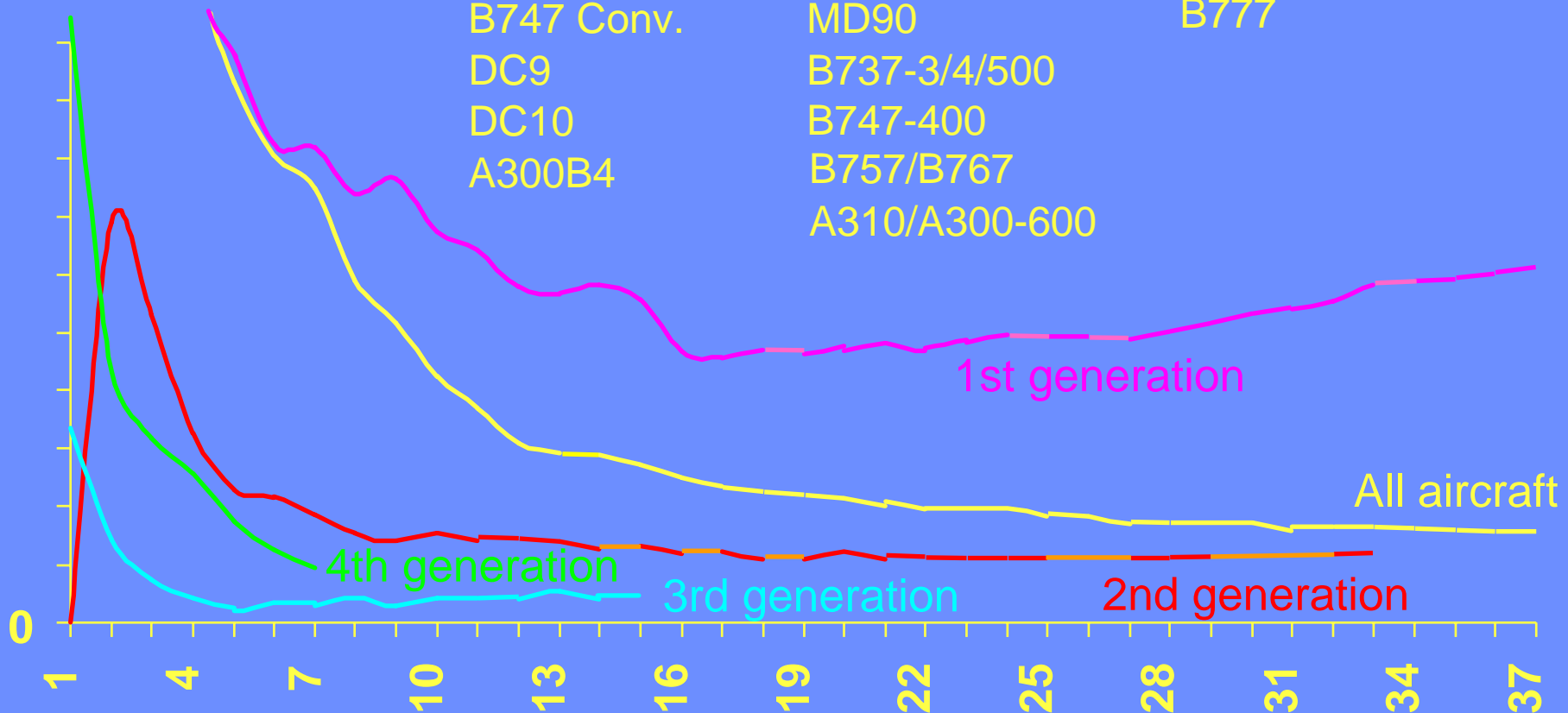
B727  
B737-1/200  
B747 Conv.  
DC9  
DC10  
A300B4

## 3rd generation :

MD80  
MD11  
MD90  
B737-3/4/500  
B747-400  
B757/B767  
A310/A300-600

## 4th generation:

A319/A320/A321  
A330/A340  
B777







# What about us?

- | Hull losses
- | Potential hull losses
- | Transportation of dangerous goods
- | Ground damage
- | Others
- | What is our exposure to hazards?



# What is our exposure to hazards?

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We don't know

what we don't know !





# Risk Management

We need to identify the hazardous sources of our risks and find ways of exposing our vulnerability...

Only then we can start to manage risks, instead of just being exposed to them.

Currently, we only react to incidents and accidents, having had a propensity to blame the individual instead of reviewing our systemic latent failures before the event.





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# SAFETY MANAGEMENT:



## Objective

To provide assurance, through comprehensive evidence and argument, that we have an adequately safe operation, by identifying and assessing the major hazards and safety risks and managing them to levels which are As Low As Reasonably Practicable.



# SAFETY MANAGEMENT:

## Regulation



The Authorities continue to provide the minimum regulatory framework whilst moving towards self regulation.

- | CAA
- | EU/JAA
  - » JAR - OPS
  - » JAR 145
- | Is this sufficient with the introduction of the new concept of self regulation?
  - » our history and that of the aviation industry suggests otherwise!





# SAFETY MANAGEMENT:

## Prerequisites





# SAFETY MANAGEMENT:

## Corporate Approach to Safety



- | Corporate Safety Policy
- | Integrated Safety Culture
- | Effective Safety Standards

**Comprehensive  
Corporate  
Approach to  
Safety**



# SAFETY MANAGEMENT

Organisation for Delivering Safety



- | Integrated Safety Organisation
- | Accountability within the organisation
- | Establishment of analytical methods throughout the organisation

**Effective  
Organisation  
for  
Delivering  
Safety**



# SAFETY MANAGEMENT

Systems for Assuring Safety



- | Integrated Quality System
  - » Quality assurance systems

**Robust  
Systems  
for Assuring  
Safety**



# SAFETY MANAGEMENT



## Initial Corporate Solution

- | Visible commitment from the top
- | Safety Case embracing
  - » Hazard Assessment
  - » Risk Analysis
- | The establishment of safety systems
- | Monitoring and measurement
- | Well developed Safety Culture
- | Integrated Quality System



# SAFETY MANAGEMENT:



## Safety Case

### I Safety Case

A Safety Case lists (Registers) the HAZARDS inherent in a specific operation and details how the Safety Management System identifies, assesses and controls those hazards and what recovery (contingency) measures are in place should the hazard be released.





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# Safety Management

## Staff Requirements



In order to protect the continued growth and development of the business the following additional appointments may be required.

### I Safety Director / Manager

- » To provide a continuous safety overview, to recommend safety policy and to represent the organisation in relation to safety.
- » Responsible for the safety oversight of all new initiatives.



# Safety Management

## Staff Requirements



- | Safety Manager
- | Emergency Response Planner
- | Incident Investigator
- | Support staff

**Note:** Some or all of these may be the same person depending on the size of the organisation.



# BM Safety Management

## Documentation



- | Policy Document

- » Policy promoted by Main Board

- | SMS Guide Document

- » Modular elements
- » Dynamic - constant review possible.
- » Integrated - to manage HSE, Quality.....
- » Conform to Aviation Policy and Law.





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# Investment

The substantial investment required to introduce safety management has been structured to maximise the potential benefits.

- » An integrated corporate solution, reducing staff and equipment requirements
- » Phased implementation - increased time scale
- » Research collaboration negotiated with Flight Data Company and NASA - (Gore commission)





# Potential Benefits

- | The introduction of SMS provides enhanced safety and safety assurance to the Organisation, the Owners/Shareholders, Authorities and our customers. This is vital for the continued development of the business and the approval of our new initiatives, by the Authorities.
- | Hazards are able to be identified before an operation takes place.
- | Residual risks able to be better managed tactically.





# Potential Benefits

- | Cost savings by reducing unforeseen safety deficiencies - mending the holes in the Swiss cheese.
- | Reduction of hidden costs (repairs, delays) associated with incidents and accidents.
- | Additional savings by Operations and Engineering through enhanced monitoring programmes.





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# Conclusion

- | Aviation is a high risk business, requiring the management of safety to be enhanced.
- | We must identify our hazards, analyse our risks and implement appropriate defences.
- | By managing our risks we will minimise our losses and have the opportunity to reduce our costs.
- | We must introduce a Safety Management System.





# Conclusion

By our introduction of Safety Management we will:

- » reduce our exposure to hazards
- » reduce the risk of the likelihood of a hull loss
- » reduce our costs due to accidents and incidents
- » provide the opportunity to revitalise and improve the safety culture of the Company
- » improve our relationship with the Authorities and our staff





# Questions ?

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