GB Experience with learning from accidents and other operational experience - looking forward

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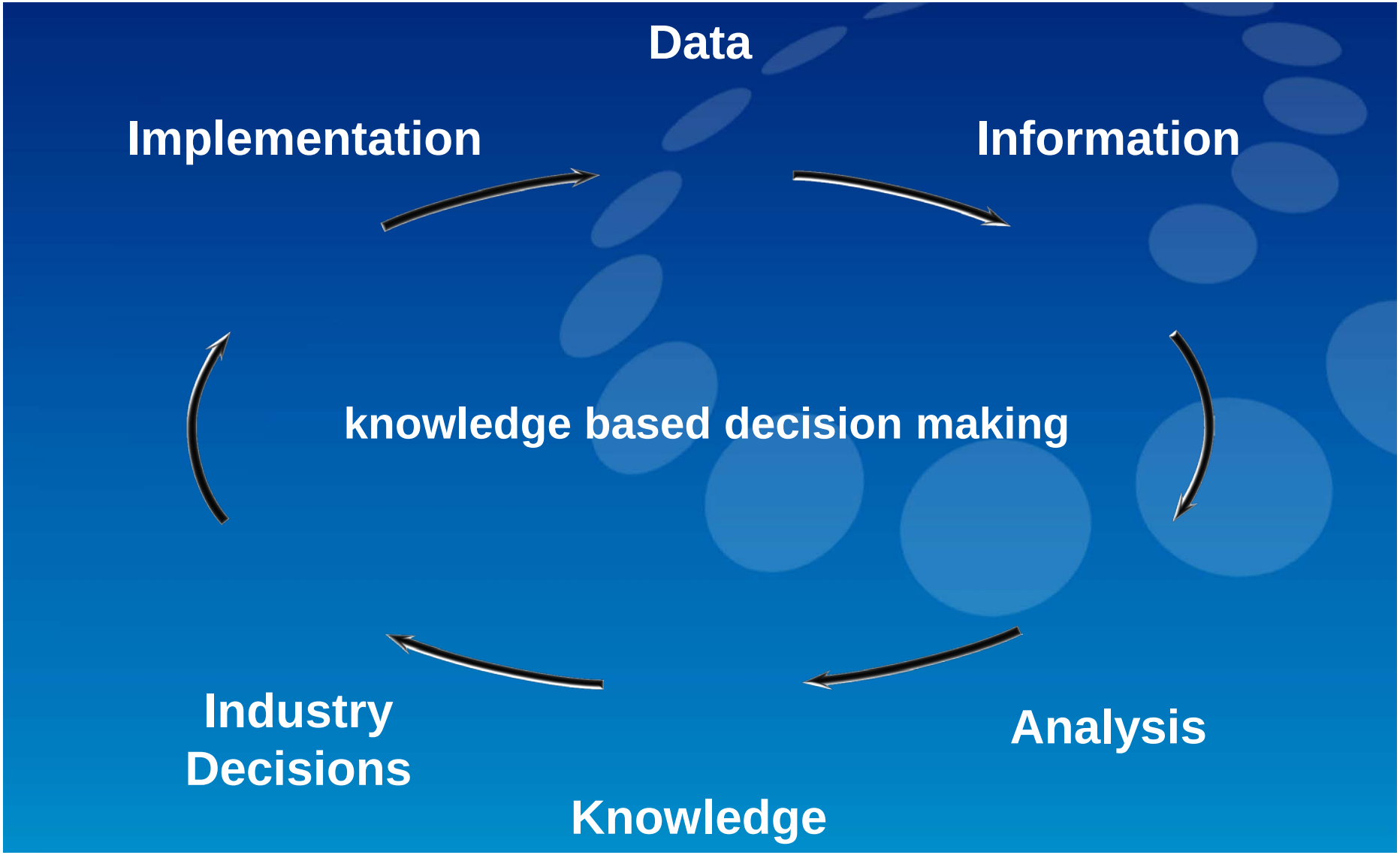
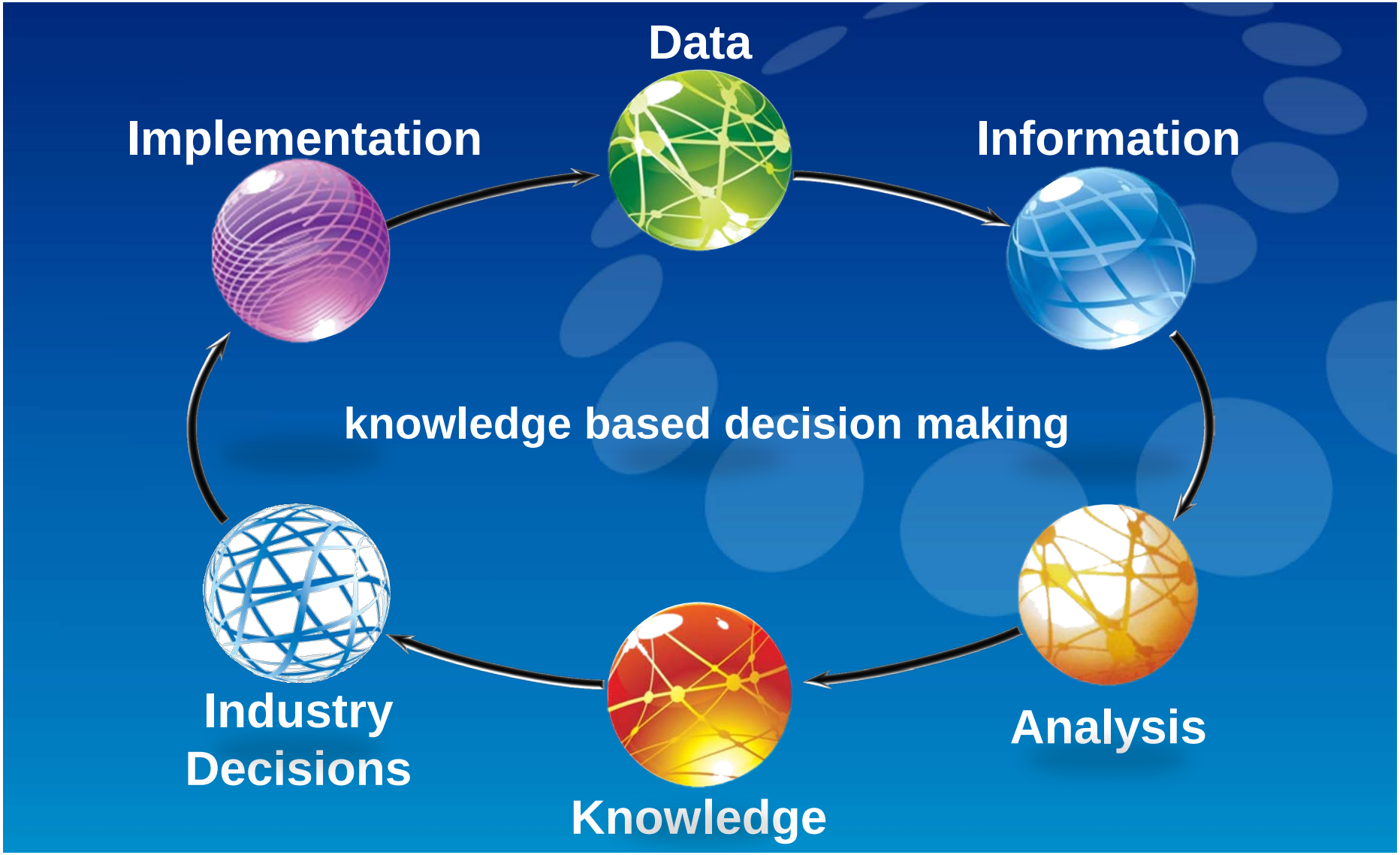
International Rail Safety Conference 2010 **Hong Kong**
October 2010

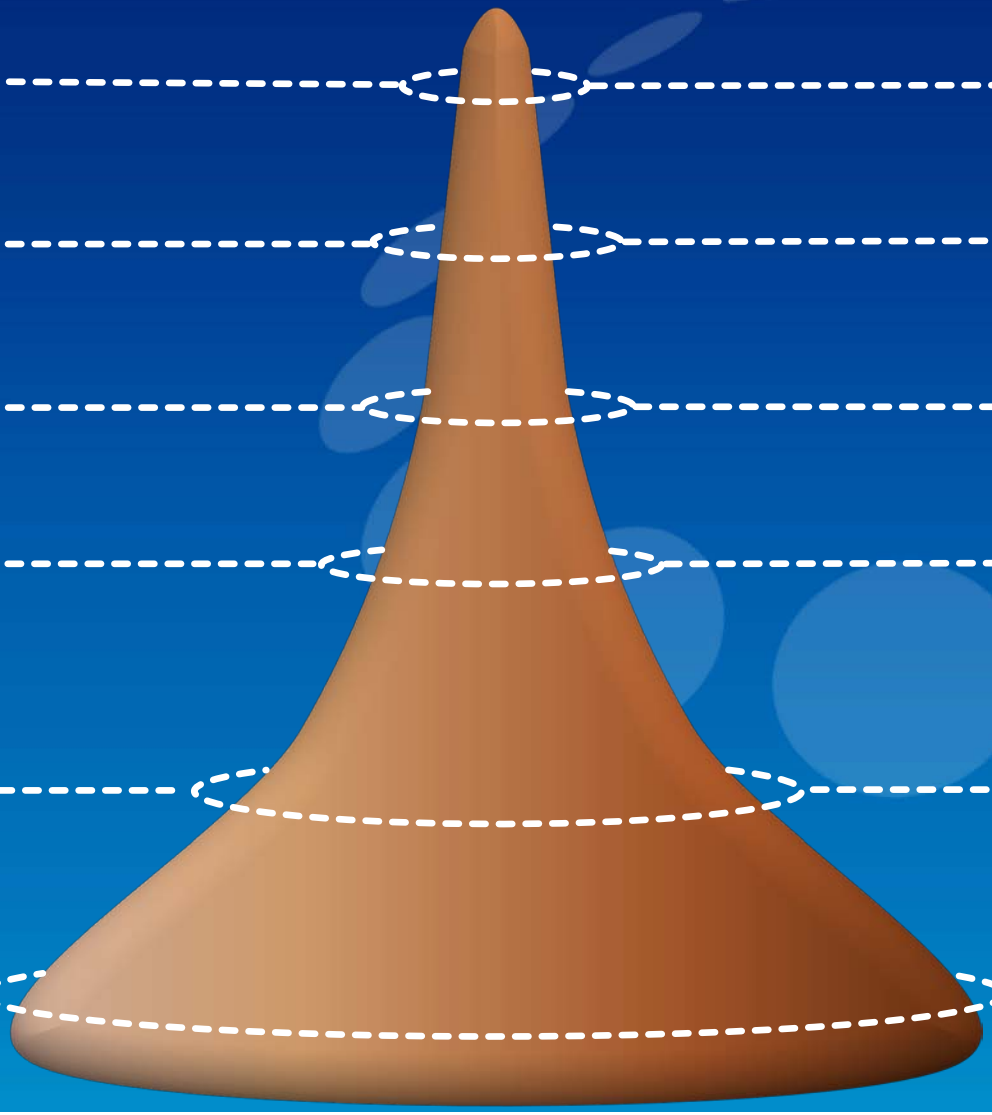
RSSB supporting industry learning



RSSB supporting industry learning



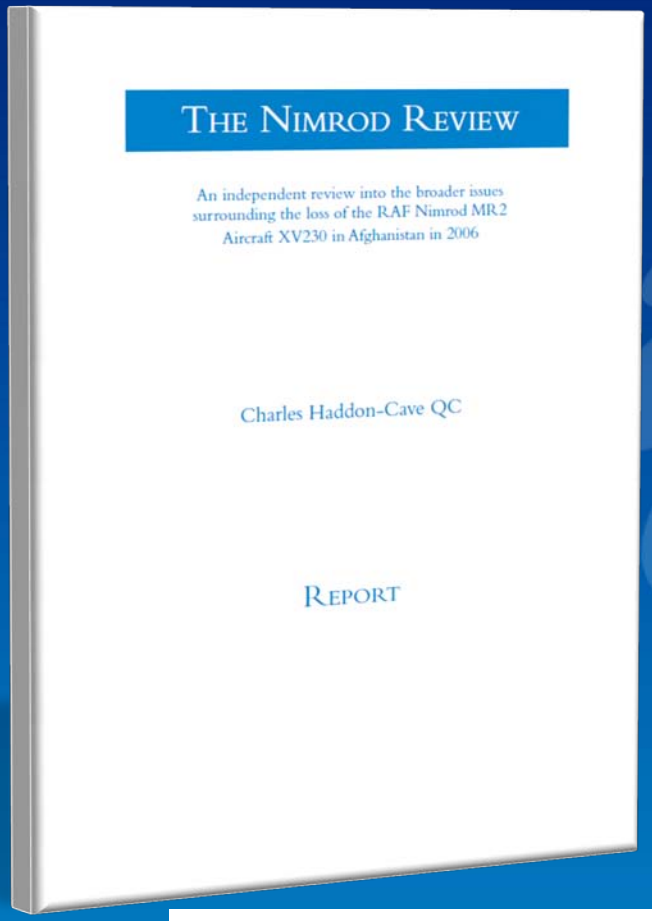
Hierarchy of events



Multi Fatality	1: 5-20 yrs
Fatalities	1: 2-5 yrs
Serious Events	20 events : yr
Less serious Events	15,000 : yr
Near Misses	000,000? : yr
Daily Events	000,000? / day

Hierarchy of investigations

Haddon-Cave ‘Nimrod’ Report

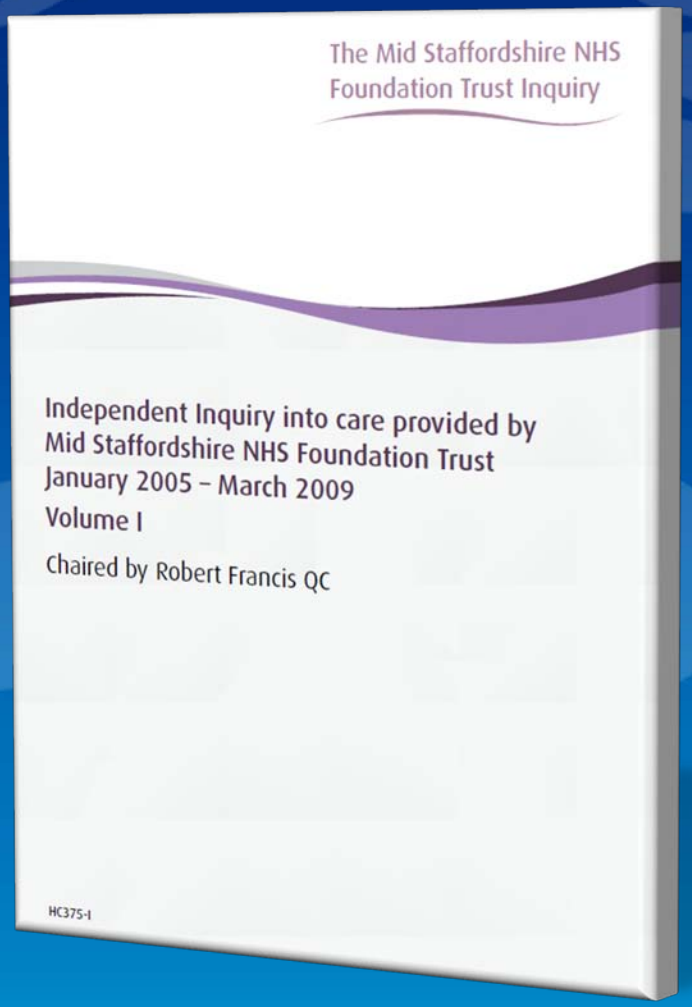


‘should be a greater focus on people in the delivery of safety and not just on process and paper’

A FAILURE OF LEADERSHIP, CULTURE AND PRIORITIES

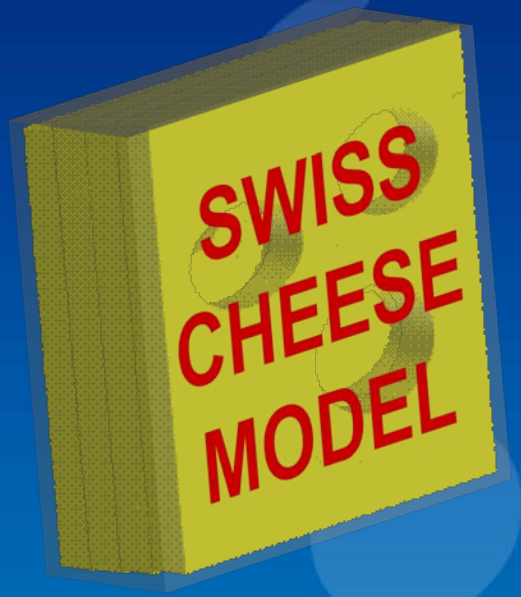
Mid Staffordshire Health Trust

‘Dangers of relying on apparently favourable performance reports by outside bodies…. rather than effective internal assessment and feedback’



The origins of accidents are well known….

Source: James Reason



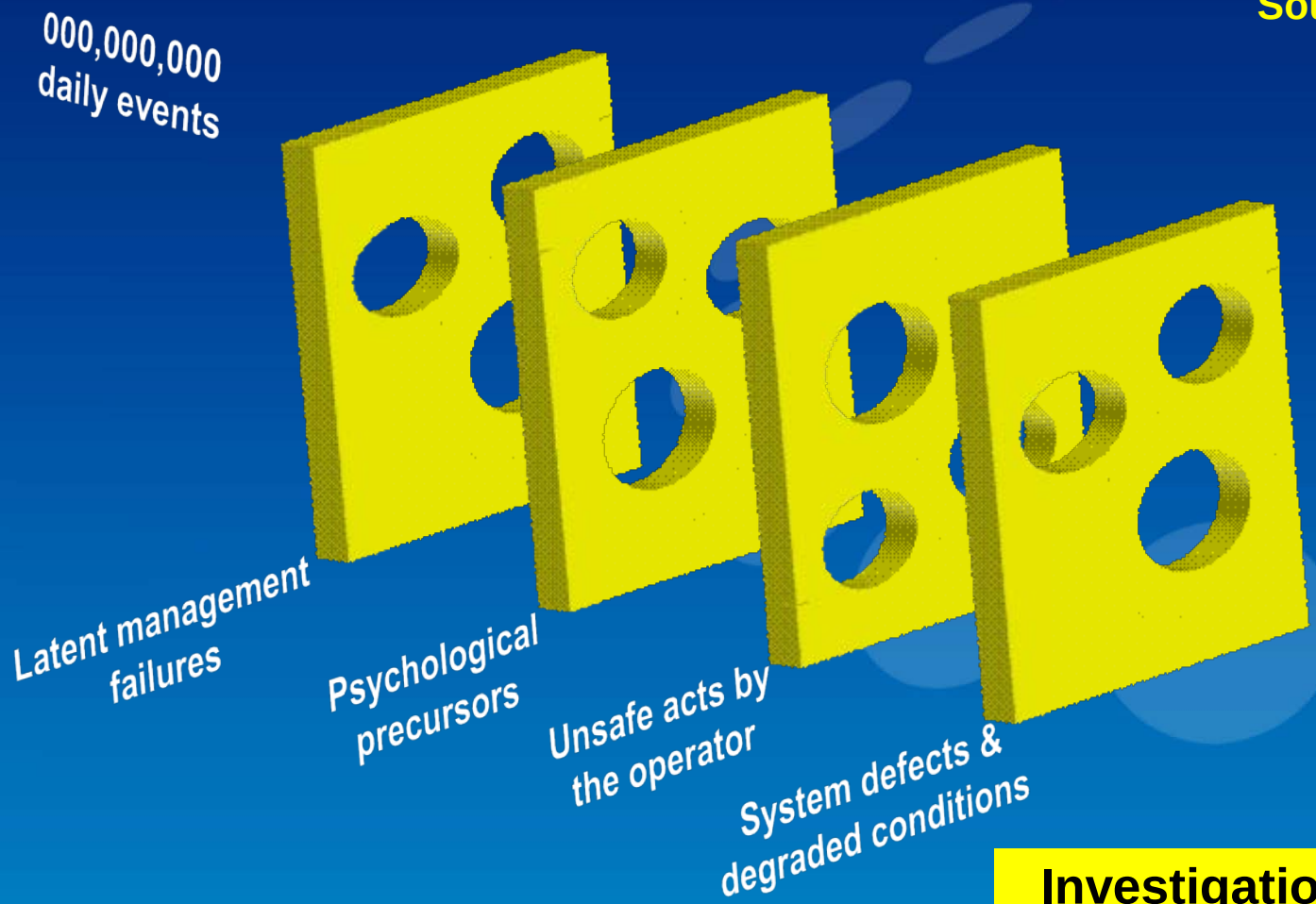
Latent management failures

Psychological precursors

Unsafe acts by the operator

System defects & degraded conditions

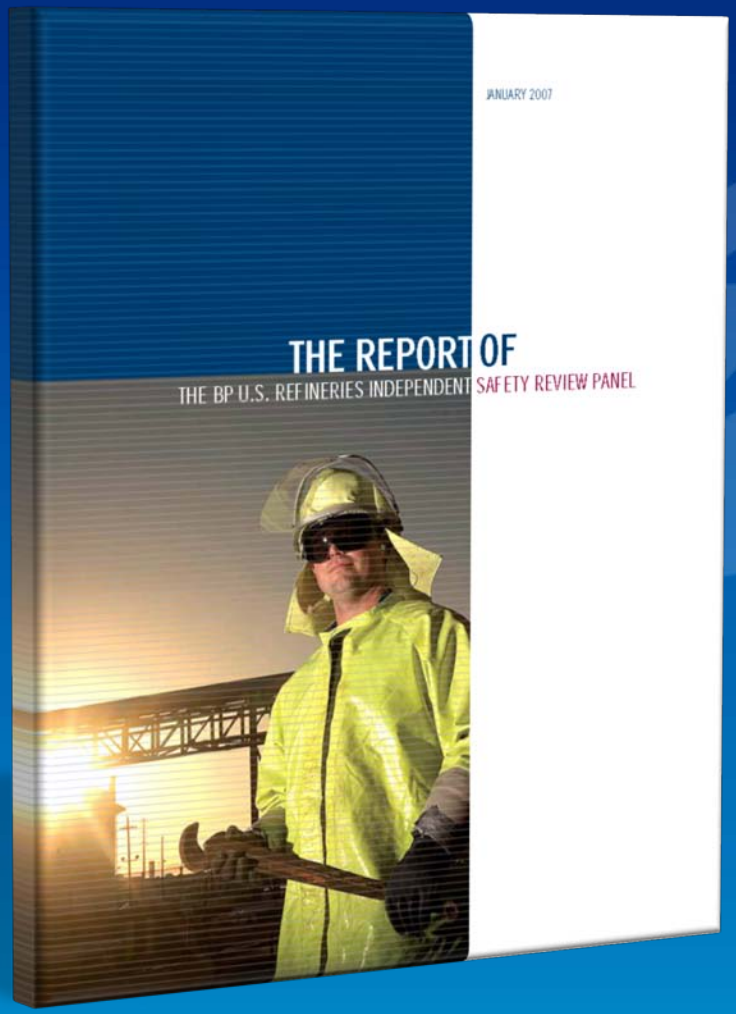
…and so are the conclusions after the event



Source: James Reason

Investigation conclusion – Accident was 100% likely to happen

James Baker Report – Texas City



The passing of time without a process accident is not necessarily an indication that all is well

What does Baker mean for GB?

In GB there has been only one fataility in a train accident in the last 6 years

Does that mean that all is well?

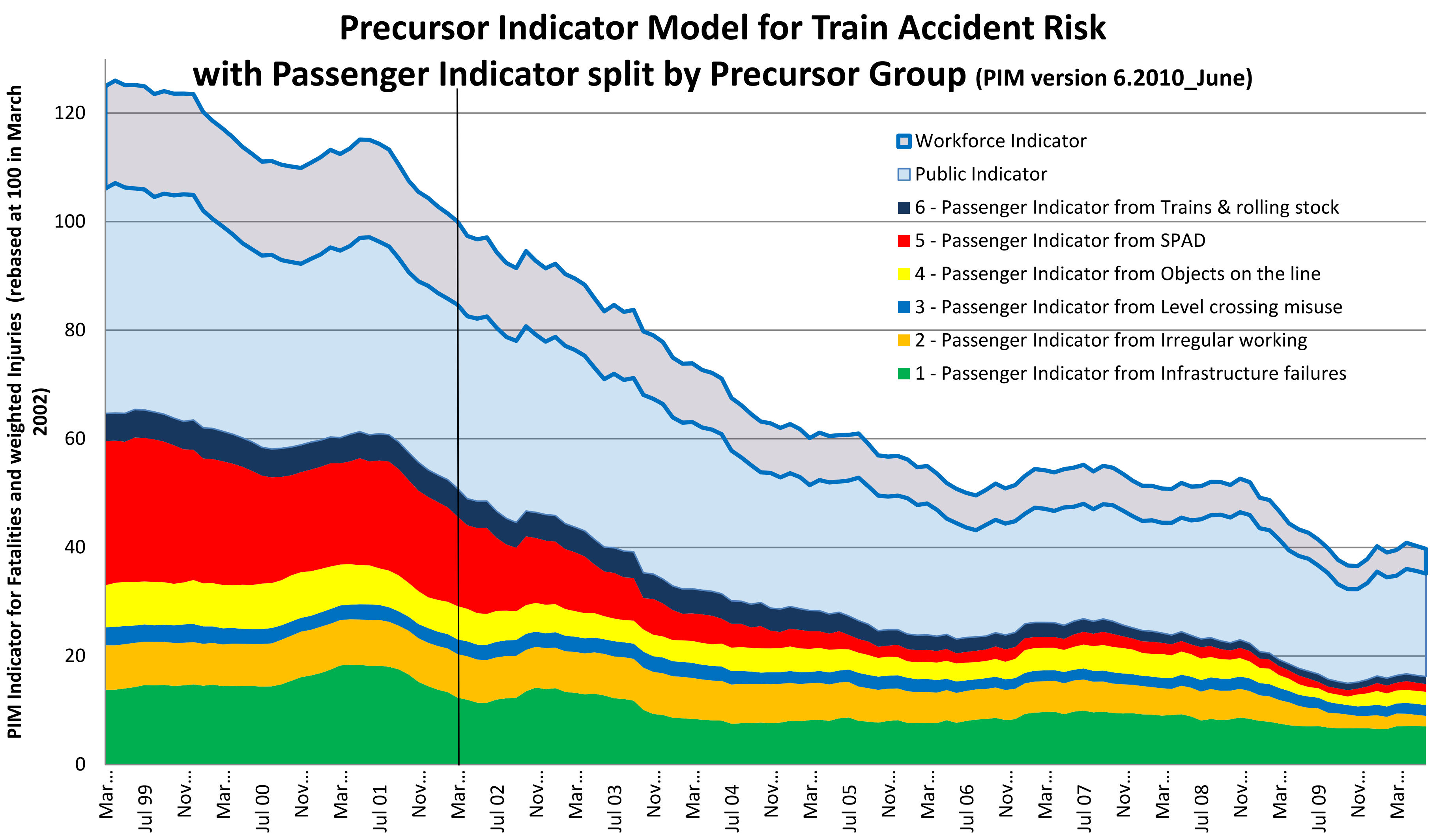
Our Risk Model says there are still risks

>= 5 Fatalities	5.4 years
>= 10 Fatalities	15.3 years
>= 25 Fatalities	50.2 years

Source: RSSB Risk Profile Bulletin v6 2009

The PIM – risk to passengers from train accidents

So we look beyond accident events


Precursor Indicator Model for Train Accident Risk
with Passenger Indicator split by Precursor Group (PIM version 6.2010_June)
PIM Indicator for Fatalities and weighted Injuries (rebased at 100 in March 2002)
0
20
40
60
80
100
120
Workforce Indicator
Public Indicator
6 - Passenger Indicator from Trains & rolling stock
5 - Passenger Indicator from SPAD
4 - Passenger Indicator from Objects on the line
3 - Passenger Indicator from Level crossing misuse
2 - Passenger Indicator from Irregular working
1 - Passenger Indicator from Infrastructure failures
Mar…
Jul 99
Nov…
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Jul 00
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Jul 01
Nov…
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Jul 02
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Potters Bar (2002) Inquest 2010

- ‘Staff carrying out inspections of the infrastructure sometimes remedied apparently minor defects without reporting them……. This prevented those higher in the engineering hierarchy from monitoring trends’
- ‘Systematic problems may go unnoticed’
- ‘Improve systems and processes ……to highlight recurrent problems and trends…… to those responsible for policy and design’

How can we look beyond precursor events?

Measure culture and its maturity

Analyse close calls

Assurance aligned with core activities

Monitor variations in asset and operational data

Collect and analyse routine data

What of the future?

- Fewer big investigations and recommendations
- More than enough lessons from other sectors' ……lessons already known

- Collecting analysing and acting on data from current operations is a core business function and will help to drive

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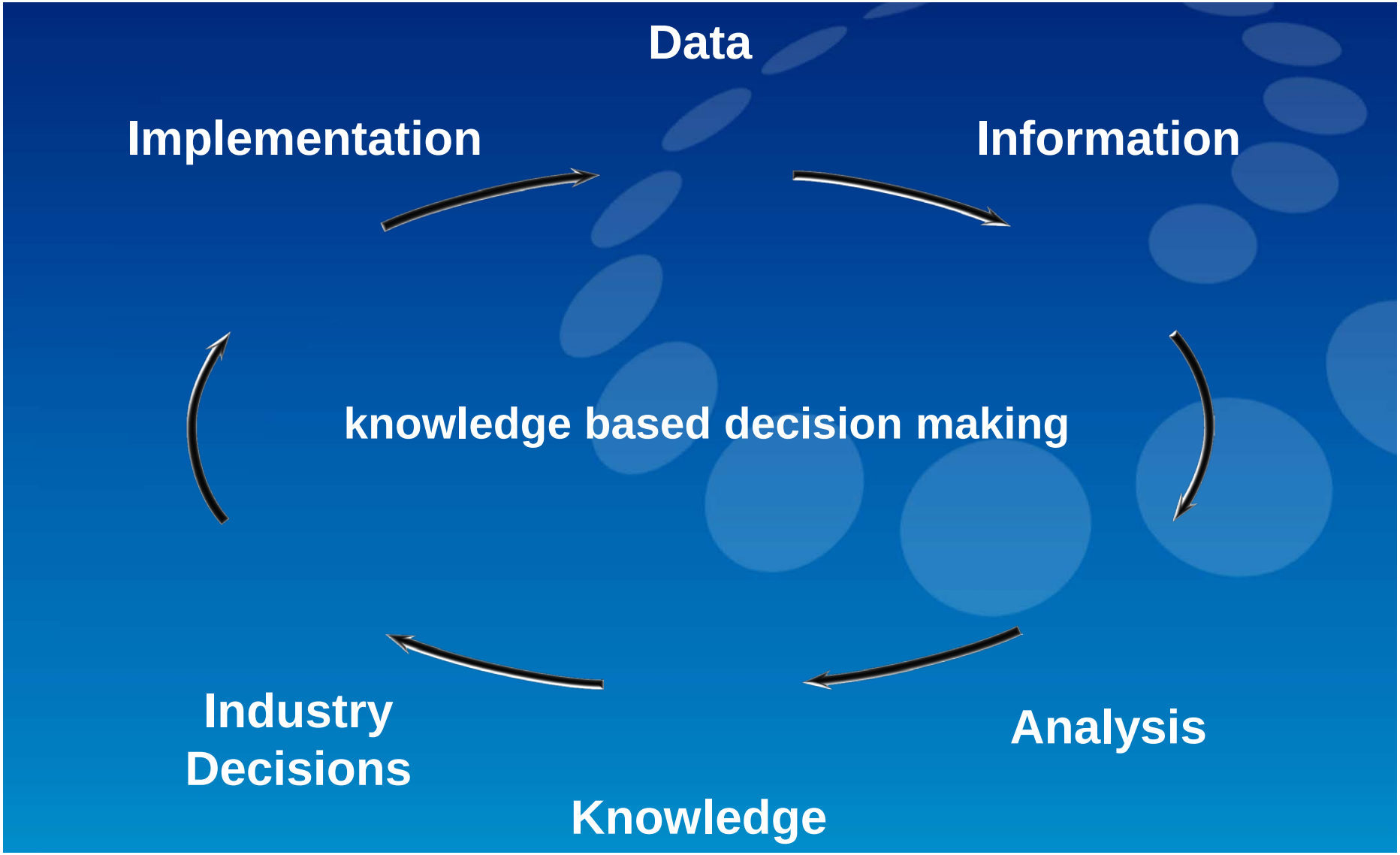

Thank you

knowledge based decision making

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