

The background of the slide is a dark blue gradient. On the left side, there is a vertical bar of a slightly lighter blue. In the upper right quadrant, there are two overlapping circles of a medium blue color. The text "Behaviour change and Human Factors" is centered in the lower half of the slide.

Behaviour change and Human Factors

Understanding Human Factors and Their Origins

Origins of Human Factors

Human factors emerged from aviation psychology, ergonomics, and human-computer interaction to improve workplace safety and performance.

System Influence on Behavior

Behaviour is shaped by system design, task structure, communication, and environmental constraints beyond individual motivation.

Designing for Human Limitations

Systems considering perceptual, memory, and decision-making limits reduce errors and improve behaviour outcomes.

Systemic Approach to Change

Sustainable behaviour change requires modifying systems and environments, not just individual attitudes.

Behaviour Change Models Through a Human Factors Lens

COM-B Model and Human Factors

The COM-B model links behaviour to capability, opportunity, and motivation influenced by physical, cognitive, and environmental factors.

Theory of Planned Behaviour Insights

Intentions drive actions but human factors show that confusing interfaces and workflow disruptions can hinder behaviour change.

Cognitive Load and Workplace Design

Workplace design and information structure impact cognitive load, supporting or hindering new behaviour adoption.

System-Level Behaviour Change

Effective change aligns artefacts, culture, and human capabilities through system design beyond motivation or training alone.

Types of Human Error in Workplace Behaviour

Classification of Human Errors

Errors are categorized as slips, lapses, and mistakes, each reflecting different cognitive failures in workplace actions.

System-Induced Errors

Many errors stem from design flaws like poor interfaces, overloaded workflows, and inconsistent cues rather than individual negligence.

Human Factors Approach

Engineering environments to accommodate cognitive limits reduces errors, using error-proofing, structured handovers, and automation.

Organisational Culture Impact

Organisational culture, communication, and incentives shape error emergence and influence the success of behaviour change.

System Design, Workload, and Behavioural Outcomes

Impact of Workload and Design

High workload increases cognitive strain, reducing attention and undermining behaviour-change success.

Importance of Usable Interfaces

Poor interface design causes confusion and workarounds, negatively affecting intended behaviours.

Ergonomics and Behaviour

Ergonomic workstations reduce fatigue and encourage correct behaviour by improving comfort and focus.

System-Level Behaviour Support

Well-designed systems align cues and incentives to make correct behaviour easiest to perform.

Ethical, Cultural, and Organisational Considerations

Ethical Dimensions in Behaviour Change

Ethical concerns involve ensuring employee autonomy and informed consent in behaviour-change interventions.

Cultural Impact on Behaviour

Cultural differences affect how behaviour-change strategies are perceived and can influence effectiveness.

Organisational Culture and Trust

Success depends on open communication, leadership support, psychological safety, and trust within organisations.

Balancing Facilitation and Manipulation

Organisations must balance optimising behaviour with transparency to avoid manipulation and maintain fairness.

Integrating Human Factors into Sustainable Behaviour Change

Continuous System Improvement

Sustainable behaviour change requires ongoing system redesigns and workflow evaluations beyond one-off trainings.

Human Factors Tools

Tools like task analysis and human reliability assessments reveal constraints affecting workplace behaviour.

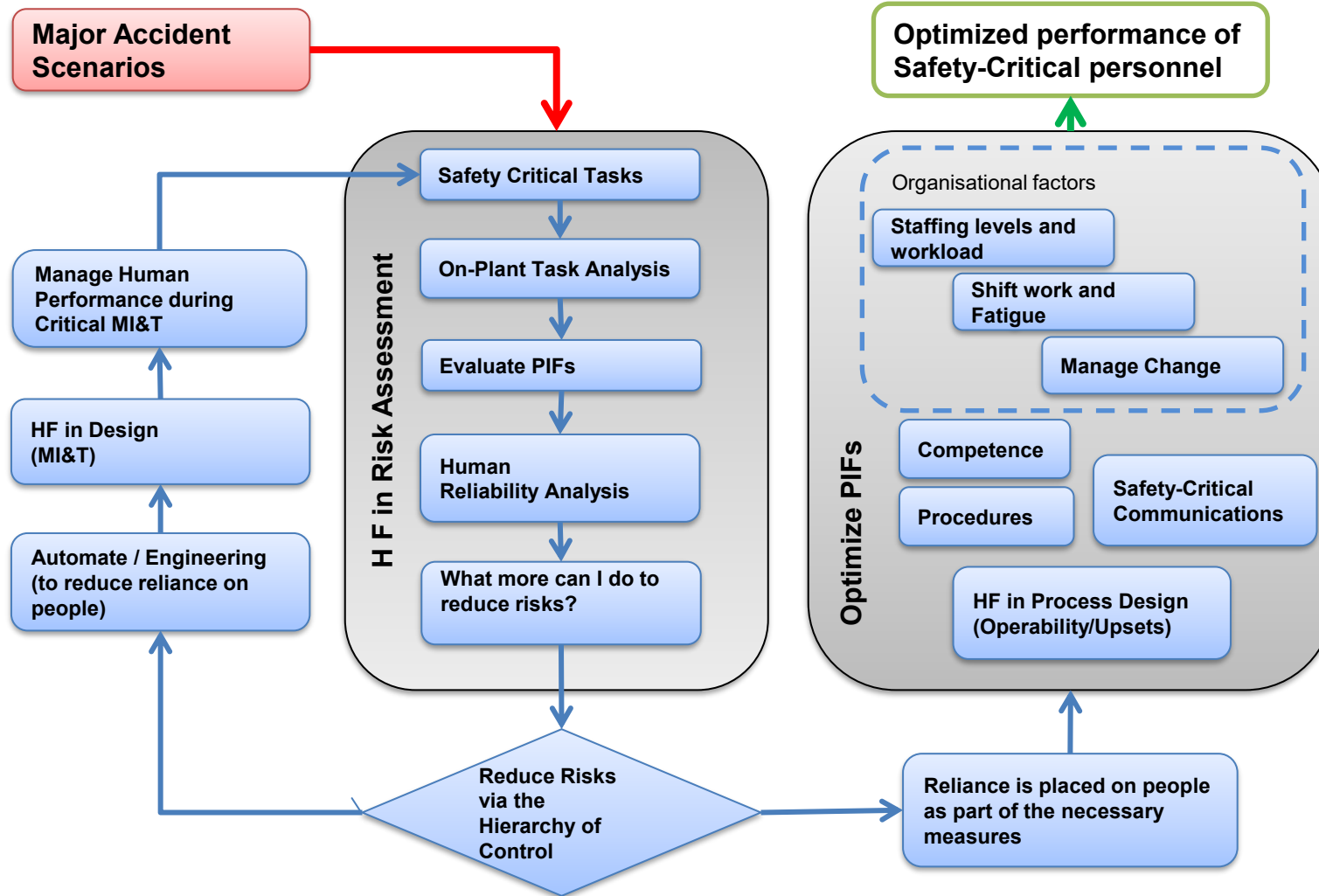
Cross-Department Collaboration

Cooperation among psychology, engineering, operations, and HR aligns system design with behavioural goals.

Resilience-Based Design

Designing systems to maintain performance despite workload, experience, and context variations ensures lasting change.

A Human Factors Approach



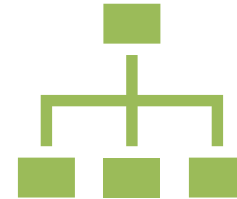
Human Reliability Assessment



First step in carrying out a HRA

Work out what can go wrong

To work out what can go wrong, you have to understand the task

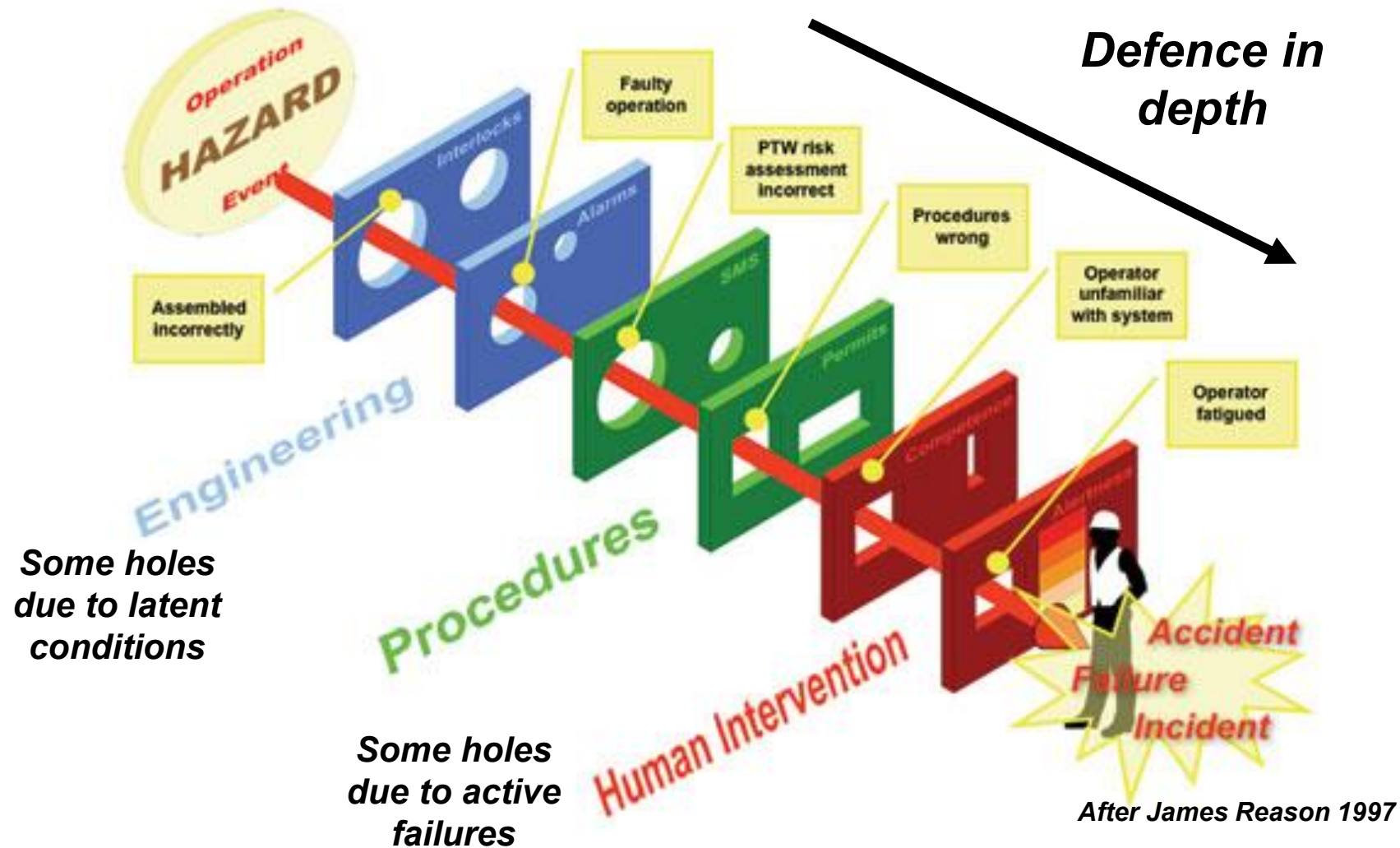


The role of task analysis:

Understanding, in advance of errors, how people really do tasks...

and hopefully pre-empt such errors

Control measures/barriers



Task Analysis Activity

