

Safety in Design



What is Safety in Design?

Safety in design is a process that focuses on minimising or eliminating hazards at the design phase that may pose a risk of injury throughout the life of the item being designed.

It encompasses all design including facilities, hardware, systems, equipment, products, tooling, materials, energy controls, layout, and configuration.

A safety in design approach begins in the conceptual and planning phase within a design's lifecycle, with an emphasis on making choices about design, methods of manufacture or construction and/or materials used which enhance its safety.

Legislation

Each state and territory has a principal OHS Act, which sets out requirements including the duties of different groups of people who play a role in workplace health and safety and have a 'duty of care'.

The latter includes contractors and those who design, manufacture, import, supply or install plant, equipment or materials used in the workplace.

What does it mean for designers?

Safety in design therefore places a 'duty of care' requirement on the designer.

The main implication is that the designer must consider the risks for each phase of the design's life cycle.

This may be complicated by factors such as:

- The conceptual designer may not be responsible for detailed design.
- The end-use client may not be known.
- The client may have a hand-off approach.

Furthermore, the inclusion of the safety in design principles into legislation means that compliance with a code or standard may not be sufficient.

Therefore the designer must:

- Have a systematic hazard identification process in place.
- Ensure adequate stakeholder engagement.
- Assess the risk and minimise where possible.
- Manage the risk over which they have control.
- Adequately communicate residual risks.

Our Solutions

Ibis helps clients develop and deliver focused and cost-effective approaches to manage risk.

Ibis can provide assistance in the following areas:

- Stakeholder needs analysis.
- Facilitation of risk workshops.
- Assistance in the development of risk management systems.
- Development of procedures and cost effective methods of managing safety in design.

The Benefits

A well designed safe design approach results in several benefits, including:

- Improved useability of products, items, systems and facilities.

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- Improved productivity.
- Reduced costs.
- Compliance with legislation.
- Innovation, in that safe design demands new thinking.

our consultants with background and tools to assist clients identify risks early in the design and provide guidance on the management of those risks.

Our Experience

Ibis has assisted a **Major Food Wholesale Operation** to review the hazards for their existing operation and then identify opportunities for designing those hazards out during the design phase. This includes a critique of site layout.

Ibis has conducted constructability, maintainability and operability workshops for **TWP Australia** and **BHP Billiton** incorporating the application of value improvement practices. These were conducted during the earlier design to allow the hazards identified to be designed out.

Ibis has provided **BHP Billiton** (Nickel West) with project risk services for its Autonomous Haul Truck project. Detailed hazard identification and risk assessments were conducted during the prototype development to provide assurance that it is safe for those who both operate and maintain the vehicles when they enter the operational phase.

More generally Ibis consultants have conducted a wide range of risk assessments covering the complete span of the project life cycle from concept design, detailed design, construction, commissioning and operation. This covers a range of sectors including oil and gas, petrochemical, mining, infrastructure and water industries. This provides

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