



Consulting and Training | Reach New Heights

Course Name

Safety by Design: Preventing Risk Before Work Begins

Sector Name

Health, Safety and Environment

Document Type

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Safety by Design: Preventing Risk Before Work Begins

Course Introduction

Many workplace hazards become difficult and expensive to control because safety is considered only after equipment has been purchased, layouts finalized, processes established, or work methods approved. At that stage, organizations may depend heavily on procedures, warnings, supervision, and personal protective equipment to manage risks that could have been eliminated or significantly reduced much earlier. A stronger approach is to ask a different question: **Can the risk be designed before people are exposed to it?**

Boost Consulting & Training has designed this course to help participants embed safety into the early decisions that shape workplaces and work itself. The program explores how equipment selection, workplace layout, workflow, access, maintainability, ergonomics, procurement, process design, and planned changes can either create or prevent future exposure. Participants learn to challenge design decisions from a safety perspective and identify opportunities to eliminate hazards before operational controls become necessary.

The main concept of this course is to move safety upstream—preventing and reducing workplace risk through better design

decisions before hazards become embedded in equipment, processes, workplaces, and everyday operations.

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Target Audience

- ✓ HSE and occupational safety professionals
- ✓ Engineering and technical professionals
- ✓ Operations and maintenance managers
- ✓ Project, facilities, and workplace planning professionals

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Learning Objectives

- ✓ Explain the value of addressing workplace hazards during design and planning rather than after implementation.
- ✓ Identify design decisions that can create, transfer, increase, or eliminate occupational risk.
- ✓ Apply hazard elimination and risk-reduction principles during workplace, equipment, and process design.
- ✓ Evaluate layouts, access arrangements, workflows, ergonomics, and maintainability from a safety perspective.
- ✓ Integrate safety requirements into equipment selection, specifications, and procurement decisions.
- ✓ Identify foreseeable risks associated with installation, operation, maintenance, cleaning, and emergency intervention.
- ✓ Conduct structured safety reviews before new or modified systems become operational.
- ✓ Develop practical Safety by Design principles that can be embedded into organizational projects and workplace changes.

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Course Outline

✓ Day 01

Moving Safety Upstream

Why Design Decisions Matter

- ✓ Exploring how early decisions can determine future worker exposure and dependence on operational controls
- ✓ Comparing hazards that are designed out with hazards managed later through procedures, supervision, or PPE
- ✓ Identifying the operational and safety consequences of poor design choices across the workplace lifecycle

Finding Risk Before It Becomes Embedded

- ✓ Identifying foreseeable hazards during concept development, planning, specification, and workplace modification
- ✓ Examining interactions between people, equipment, materials, environment, and work processes
- ✓ Conducting a Design Risk Discovery Exercise before a proposed workplace becomes operational

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Course Outline

✓ Day 02

Designing Safer Workplaces and Tasks

Workplace Layout and Safe Interaction

- ✓ Evaluating movement routes, access points, visibility, spacing, interfaces, storage, and separation of activities
- ✓ Preventing conflicts between pedestrians, vehicles, equipment, materials, and operational processes
- ✓ Redesigning a workplace layout to eliminate or reduce exposure at source

Designing Work Around Human Capabilities

- ✓ Incorporating reach, posture, movement, visibility, physical demand, and cognitive workload into design decisions
- ✓ Reducing dependence on employee adaptation to poorly designed tasks and environments
- ✓ Completing a Human-Centered Safety Design Challenge for a demanding work activity

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Course Outline

✓ Day 03

Safer Equipment and Procurement Decisions

Designing Safety into Equipment Selection

- ✓ Evaluating access, guarding, controls, isolation, alarms, usability, and foreseeable interaction before equipment selection
- ✓ Considering abnormal operation, cleaning, inspection, adjustment, and intervention—not only normal production
- ✓ Comparing equipment options using safety and lifecycle-risk criteria

Safety-Led Procurement

- ✓ Translating workplace hazards and user needs into meaningful safety specifications
- ✓ Challenging supplier assumptions and verifying whether proposed safeguards match actual operating conditions
- ✓ Developing a **Safety-Critical Procurement Checklist** for equipment or technical systems

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Course Outline

✓ Day 04

Designing for the Full Operational Lifecycle

Maintenance, Intervention and Change

- ✓ Anticipating hazards associated with maintenance access, isolation, troubleshooting, replacement, and modification
- ✓ Designing safer access and intervention rather than relying on complex procedures after installation
- ✓ Evaluating how future changes in use, capacity, workforce, or environment can alter the original risk profile

Testing Design Before Exposure Begins

- ✓ Using scenarios and foreseeable misuse to challenge proposed workplace and equipment designs
- ✓ Identifying residual risks and determining whether further design improvement is reasonably achievable
- ✓ Conducting a **Pre-Start Safety Design Review** before simulated operational approval

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Course Outline

✓ Day 05

Embedding Safety by Design

From Design Review to Operational Readiness

- ✓ Verifying that critical safety requirements remain intact through procurement, installation, commissioning, and handover
- ✓ Managing design changes without introducing new or transferred hazards
- ✓ Capturing residual risks and communicating essential safety information to future users and operators

Building Safety by Design Approach

- ✓ Defining responsibilities across HSE, engineering, operations, maintenance, procurement, projects, and suppliers
- ✓ Embedding safety checkpoints into project, procurement, modification, and approval processes
- ✓ Developing Safety **by Design Framework** for practical organizational implementation

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Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
Dec. 28, 2026	Jan. 1, 2027	5 days	4250.00 \$	UAE , Dubai
May 3, 2027	May 7, 2027	5 days	5950.00 \$	USA , Texas
July 5, 2027	July 9, 2027	5 days	4250.00 \$	UAE , Abu Dhabi
Oct. 24, 2027	Oct. 28, 2027	5 days	4250.00 \$	Bahrain , Manama

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