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Nota di contenuto	Intro -- An Effective Strategy for Safe Design in Engineering and Construction -- Contents -- Figures -- Tables -- Foreword -- Introduction -- Aims of the Book -- Who the Book is For -- How the Book is Structured -- Promoting Safe Design -- Example Case Studies -- Nuclear Power Plant -- Office Block -- Warship -- Home Printer -- Motor Car -- The Context of Design -- Design and the Product Life Cycle -- Influences on Design -- Preventing Error -- Safety as a Design Component -- Introduction-Summary -- Glossary of Terms -- 1 Elements of the Design Process -- Initiating Need -- Business Case -- Requirements Capture -- The Design Process -- Design Feasibility -- Design Specification -- Full or Technical Design -- Production Phase -- Validating the Design -- Lessons Learned -- The Design Process-Summary -- 2 The Regulatory Environment -- The Importance of Regulation in Design -- Health and Safety at Work etc. Act 1974 -- Environmental Protection Act 1990 -- Construction (Design and Management) Regulations 2015 (CDM) -- Provision and Use of Work Equipment Regulations 1998 -- CE Marking -- Building Information

Modelling -- Standards -- The "Four Cs" -- How Construction Regulations Align with the Design Process -- Benefits of Implementing CDM -- Pre-construction Including Design -- Construction Phase -- Handover and Use -- The Regulatory Environment-Summary -- 3 Design Process Considerations -- Management Structure and Delegations -- Client Relationship -- Documentation and Management Systems -- Communication and Dissemination -- Project Management Methodologies -- RIBA Plan of Work -- PRINCE2 -- Environmental Impact and the Circular Economy -- The Circular Economy -- Environmental Impact-A Footnote -- Further Considerations -- Provision of Materials and Manufacturing Techniques -- Ergonomics and the Work Environment -- Space -- Air Quality. Light-Quality, Quantity, Colour Temperature -- Green Spaces -- Anthropometry -- Spatial Design -- Operating and Maintenance Procedures in Service -- Training Provision -- Obsolescence -- Influences Surrounding the Product Life Cycle -- Managing/Maintaining the Design Objective -- Design Management-Summary -- 4 The Management of Risk -- The Importance of Managing Risk -- Risk Management Process -- The Risk Register -- Influences on Risk Management -- Risk Appetite -- External Influencing Factors -- Control Measures -- Risk Identification Tools -- Failure Modes Effects (and Criticality) Analysis -- Fault Tree Analysis -- Event Tree Analysis -- Probabilistic Risk Assessment -- Bow Tie Method -- General Principles of Prevention and the Hierarchy of Control -- CDM Deliverables in Support of Risk Management -- Pre-construction Information -- Construction Phase Plan -- Health and Safety File -- Competently Dealing with Risk -- Risk Management Summary -- 5 Effective Design Strategy -- The Importance of an Effective Design Strategy -- Initiating Need -- Business Case -- "Make/Buy" and "Do Nothing" Approaches -- Key Stakeholder Engagement -- Responsibilities -- Design Risk Management -- Requirements Capture -- Initiating the Design Process -- Management Structure and Delegations -- Documentation and Management Systems -- Pre-construction Information -- Design Feasibility -- Environmental and External Influences -- Design A -- Design B -- Design C -- Design D -- General Principles of Prevention -- Design Review-Feasibility -- Additional Stakeholder Engagement -- Supplier Engagement -- User Requirements -- Design Specification -- Regulatory Environment -- Operating and Maintaining -- Design Review-Specification -- Full/Technical Design -- Design Review-Full -- Construction Phase Plan -- Production -- Production Risk Management -- Design Review-Validation. Acceptance/Handover -- Health and Safety File -- In Service -- Risk Management in Service -- Training Provision -- Operation and Maintenance -- Repurposing -- Disposal -- Disposal Risk Assessment -- Bibliography -- Index.
