

Safety by Design

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Key points

- ▶ Safe by Design is about looking at the safety of designs from an engineering point of view; the aim being to eliminate or reduce risks starting with development, through to construction, operation, maintenance and decommissioning.
- ▶ Since CDM 2015 designers are now more aware of their obligations regarding building safety and longevity into their designs. They now focus on innovation rather than purely invention; adapting and evolving existing ideas to solve new problems. They look to design out the labour intensive or dangerous elements, particularly with regard to on-going maintenance.
- ▶ Value Engineering refers to the elimination of unnecessary costs, whilst improving function and quality. This involves consideration of availability of materials, construction methods, transportation costs, site limitations, etc.
- ▶ Newer methods of construction now include assembling components at ground level for installation on site.
- ▶ Historic structures, such as the Forth Bridge, have astronomical maintenance costs and pose significant risks to workers. Designers of today's buildings must ensure that they may be maintained more economically and safely.
- ▶ There is no substitute for experience; graduates may have new ideas but the experienced designers will have the edge and a considerable understanding of the pitfalls. Collaboration is key.
- ▶ It is important to recognise that however good the design it will never eliminate problems caused by errors of judgement and those which occur when there is pressure to meet deadlines, but the designers can make a significant difference by reducing risks through improved design.